

SEQUENCE LISTING

<110> Bodian, Dale
Daouti, Sherif
Kumar, Chandrika
Latario, Brian
Quintavalla, Joseph

JC20 REG

11/11/2001

<120> High throughput functional genomic
screening methods for osteoarthritis

<130> 4-33178

<150> 60/463,933

<151> 2003-04-18

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<400> 22
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 <213> homo sapiens

<400> 23
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Ile	Leu	Gly	Thr	Lys	Lys	Lys	Tyr	Phe	Ser	Thr	Cys	Lys	Asn	Trp	Tyr	
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Lys	Lys	Ser	Ile	Cys	Gly	Gln	Lys	Thr	Thr	Val	Leu	Tyr	Glu	Cys	Cys	
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Pro	Gly	Tyr	Met	Arg	Met	Glu	Gly	Met	Lys	Gly	Cys	Pro	Ala	Val	Leu	
			85						90					95		
Pro	Ile	Asp	His	Val	Tyr	Gly	Thr	Leu	Gly	Ile	Val	Gly	Ala	Thr	Thr	
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Thr	Gln	Arg	Tyr	Ser	Asp	Ala	Ser	Lys	Leu	Arg	Glu	Glu	Ile	Glu	Gly	
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Lys	Gly	Ser	Phe	Thr	Tyr	Phe	Ala	Pro	Ser	Asn	Glu	Ala	Trp	Asp	Asn	
	130					135					140					
Leu	Asp	Ser	Asp	Ile	Arg	Arg	Gly	Leu	Glu	Ser	Asn	Val	Asn	Val	Glu	
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Arg	Phe	Met	Gly	Asp	Lys	Val	Ala	Ser	Glu	Ala	Leu	Met	Lys	Tyr	His	
	290					295					300					
Ile	Leu	Asn	Thr	Leu	Gln	Cys	Ser	Glu	Ser	Ile	Met	Gly	Gly	Ala	Val	
305					310					315					320	
Phe	Glu	Thr	Leu	Glu	Gly	Asn	Thr	Ile	Glu	Ile	Gly	Cys	Asp	Gly	Asp	
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Ser	Ile	Thr	Val	Asn	Gly	Ile	Lys	Met	Val	Asn	Lys	Lys	Asp	Ile	Val	
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Thr	Asn	Asn	Gly	Val	Ile	His	Leu	Ile	Asp	Gln	Val	Leu	Ile	Pro	Asp	
		355					360					365				
Ser	Ala	Lys	Gln	Val	Ile	Glu	Leu	Ala	Gly	Lys	Gln	Gln	Thr	Thr	Phe	
	370					375					380					
Thr	Asp	Leu	Val	Ala	Gln	Leu	Gly	Leu	Ala	Ser	Ala	Leu	Arg	Pro	Asp	
385					390					395					400	
Gly	Glu	Tyr	Thr	Leu	Leu	Ala	Pro	Val	Asn	Asn	Ala	Phe	Ser	Asp	Asp	
			405						410					415		
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Ile	Leu	Lys	Val	Lys	Val	Gly	Leu	Asn	Glu	Leu	Tyr	Asn	Gly	Gln	Ile	
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Leu	Glu	Thr	Ile	Gly	Gly	Lys	Gln	Leu	Arg	Val	Phe	Val	Tyr	Arg	Thr	
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Ala	Val	Cys	Ile	Glu	Asn	Ser	Cys	Met	Glu	Lys	Gly	Ser	Lys	Gln	Gly	
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Arg	Asn	Gly	Ala	Ile	His	Ile	Phe	Arg	Glu	Ile	Ile	Lys	Pro	Ala	Glu	
			485						490					495		
Lys	Ser	Leu	His	Glu	Lys	Leu	Lys	Gln	Asp	Lys	Arg	Phe	Ser	Thr	Phe	
		500						505					510			
Leu	Ser	Leu	Leu	Glu	Ala	Ala	Asp	Leu	Lys	Glu	Leu	Leu	Thr	Gln	Pro	
		515					520					525				
Gly	Asp	Trp	Thr	Leu	Phe	Val	Pro	Thr	Asn	Asp	Ala	Phe	Lys	Gly	Met	
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 Phe Glu Pro Gly Val 565 Thr Asn Ile Leu Lys 570 Thr Thr Gln Gly Ser Lys
 Ile Phe Leu Lys Glu Val 580 Asn Asp Thr Leu Leu Val 590 Asn Glu Leu Lys
 Ser Lys Glu Ser Asp Ile Met Thr Thr Asn Gly Val 600 Ile His Val Val
 Asp Lys Leu Leu Tyr Pro 615 Ala Asp Thr Pro Val 620 Asn Asp Gln Leu
 625 Leu Glu Ile Leu Asn Lys Leu Ile Lys Tyr 635 Ile Gln Ile Lys Phe Val
 Arg Gly Ser Thr Phe Lys Glu Ile Pro Val Thr Val Tyr Thr Thr Lys
 Ile Ile Thr Lys Val Val Glu Pro Lys Ile Lys Val Ile Glu Gly Ser
 Leu Gln Pro Ile Ile Lys Thr Glu Gly Pro Thr Leu Thr Lys Val Lys
 Ile Glu Gly Glu Pro Glu Phe Arg Leu Ile Lys Glu Gly Glu Thr Ile
 705 Thr Glu Val Ile His Gly Glu Pro Ile Ile Lys Lys Tyr Thr Lys Ile
 Ile Asp Gly Val Pro Val Glu Ile Thr Glu Lys Glu Thr Arg Glu Glu
 Arg Ile Ile Thr Gly Pro Glu Ile Lys Tyr Thr Arg Ile Ser Thr Gly
 Gly Gly Glu Thr Glu Glu Thr Leu Lys Lys Leu Leu Gln Glu Glu Val
 Thr Lys Val Thr Lys Phe Ile Glu Gly Gly Asp Gly His Leu Phe Glu
 785 Asp Glu Glu Ile Lys Arg Leu Leu Gln Gly Asp Thr Pro Val Arg Lys
 Leu Gln Ala Asn Lys Lys Val Gln Gly Ser Arg Arg Arg Leu Arg Glu
 Gly Arg Ser Gln 835

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 <212> PRT
 <213> homo sapiens

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 Ala Ala Glu Ser Gly Ala Lys Glu Glu Leu Gln Ala Asn Gly Ser Ala
 50 55 60
 Pro Ala Ala Asp Lys Glu Glu Pro Ala Ala Ala Gly Ser Gly Ala Ala
 65 70 75 80
 Ser Pro Ser Ser Ala Glu Lys Gly Glu Pro Ala Ala Ala Ala Ala Pro
 85 90 95
 Glu Ala Gly Ala Ser Pro Val Glu Lys Glu Ala Pro Ala Glu Gly Glu
 100 105 110
 Ala Ala Glu Pro Gly Ser Ala Thr Ala Ala Glu Gly Glu Ala Ala Ser
 115 120 125
 Ala Ala Ser Ser Thr Ser Ser Pro Lys Ala Glu Asp Gly Ala Thr Pro
 130 135 140
 Ser Pro Ser Asn Glu Thr Pro Lys Lys Lys Lys Arg Phe Ser Phe
 145 150 155 160
 Lys Lys Ser Phe Lys Leu Ser Gly Phe Ser Phe Lys Lys Asn Lys Lys
 165 170 175
 Glu Ala Gly Glu Gly Gly Glu Ala Glu Ala Pro Ala Ala Glu Gly Gly

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180
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 Ala Ala Ser Gly Glu Gln Ala Ala Ala Pro Gly Glu Glu Ala Ala Ala
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 Gly Glu Glu Gly Ala Ala Gly Gly Asp Pro Gln Glu Ala Lys Pro Gln
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 Glu Ala Ala Val Ala Pro Gly Lys Pro Pro Ala Ser Asp Glu Thr Lys
 245
 Ala Ala Glu Glu Pro Ser Lys Val Glu Glu Lys Lys Ala Glu Glu Ala
 260
 Gly Ala Ser Ala Ala Ala Cys Glu Ala Pro Ser Ala Ala Gly Pro Gly
 275
 Ala Pro Pro Glu Gln Glu Ala Ala Pro Ala Glu Glu Pro Ala Ala Ala
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 Ala Ala Ser Ser Ala Cys Ala Ala Pro Ser Gln Glu Ala Gln Pro Glu
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 Cys Ser Pro Glu Ala Pro Pro Ala Glu Ala Ala Glu
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 Leu Lys Ala Cys Phe Ser Gly Leu Thr Gln Thr Glu Trp Gln His Arg
 35
 His Thr Ala Gln Ser Ile Glu Thr Gln Ser Thr Ser Glu Glu Leu
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 Val Pro Ser Pro Pro Ser Pro Leu Pro Pro Pro Arg Val Tyr Lys Pro
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 Cys Phe Val Cys Gln Asp Lys Ser Ser Gly Tyr His Tyr Gly Val Ser
 85
 Ala Cys Glu Gly Cys Lys Gly Phe Phe Arg Arg Ser Ile Gln Lys Asn
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 Met Ile Tyr Thr Cys His Arg Asp Lys Asn Cys Val Ile Asn Lys Val
 115
 Thr Arg Asn Arg Cys Gln Tyr Cys Arg Leu Gln Lys Cys Phe Glu Val
 130
 Gly Met Ser Lys Glu Ser Val Arg Asn Asp Arg Asn Lys Lys Lys Lys
 145
 Glu Thr Ser Lys Gln Glu Cys Thr Glu Ser Tyr Glu Met Thr Ala Glu
 165
 Leu Asp Asp Leu Thr Glu Lys Ile Arg Lys Ala His Gln Glu Thr Phe
 180
 Pro Ser Leu Cys Gln Leu Gly Lys Tyr Thr Thr Asn Ser Ser Ala Asp
 195
 His Arg Val Arg Leu Asp Leu Gly Leu Trp Asp Lys Phe Ser Glu Leu
 210
 Ala Thr Lys Cys Ile Ile Lys Ile Val Glu Phe Ala Lys Arg Leu Pro
 225
 Gly Phe Thr Gly Leu Thr Ile Ala Asp Gln Ile Thr Leu Leu Lys Ala
 245
 Ala Cys Leu Asp Ile Leu Ile Leu Arg Ile Cys Thr Arg Tyr Thr Pro
 260
 Glu Gln Asp Thr Met Thr Phe Ser Asp Gly Leu Thr Leu Asn Arg Thr
 275
 Gln Met His Asn Ala Gly Phe Gly Pro Leu Thr Asp Leu Val Phe Thr
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 Phe Ala Asn Gln Leu Leu Pro Leu Glu Met Asp Asp Thr Glu Thr Gly
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 Leu Leu Ser Ala Ile Cys Leu Ile Cys Gly Asp Arg Gln Asp Leu Glu
 320

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Glu Pro Thr Lys Val Asp Lys Leu Gln Glu Pro Leu Leu Glu Ala Leu
 325 330 335
 Lys Ile Tyr Ile Arg Lys Arg Arg Pro Ser Lys Pro His Met Phe Pro
 340 350
 Lys Ile Leu Met Lys Ile Thr Asp Leu Arg Ser Ile Ser Ala Lys Gly
 355 360 365
 Ala Glu Arg Val Ile Thr Leu Lys Met Glu Ile Pro Gly Ser Met Pro
 370 375 380 390 400
 Pro Leu Ile Gln Glu Met Leu Glu Asn Ser Glu Gly His Glu Pro Leu
 385 395 410 415
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 <213> homo sapiens

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 20 25 30
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 35 40 45
 Glu Thr Ser Lys Gln Glu Cys Thr Glu Ser Tyr Glu Met Thr Ala Glu
 50 55 60
 Leu Asp Asp Leu Thr Glu Lys Ile Arg Lys Ala His Gln Glu Thr Phe
 65 70 75 80
 Pro Ser Leu Cys Gln Leu Gly Lys Tyr Thr Thr Asn Ser Ser Ala Asp
 85 90 95
 His Arg Val Arg Leu Asp Leu Gly Leu Trp Asp Lys Phe Ser Glu Leu
 100 105 110
 Ala Thr Lys Cys Ile Ile Lys Ile Val Glu Phe Ala Lys Arg Leu Pro
 115 120 125
 Gly Phe Thr Gly Leu Thr Ile Ala Asp Gln Ile Thr Leu Leu Lys Ala
 130 135 140
 Ala Cys Leu Asp Ile Leu Ile Leu Arg Ile Cys Thr Arg Tyr Thr Pro
 145 150 155 160
 Glu Gln Asp Thr Met Thr Phe Ser Asp Gly Leu Thr Leu Asn Arg Thr
 165 170 175
 Gln Met His Asn Ala Gly Phe Gly Pro Leu Thr Asp Leu Val Phe Thr
 180 185 190
 Phe Ala Asn Gln Leu Leu Pro Leu Glu Met Asp Asp Thr Glu Thr Gly
 195 200 205
 Leu Leu Ser Ala Ile Cys Leu Ile Cys Gly Asp Arg Gln Asp Leu Glu
 210 215 220
 Glu Pro Thr Lys Val Asp Lys Leu Gln Glu Pro Leu Leu Glu Ala Leu
 225 230 235 240
 Lys Ile Tyr Ile Arg Lys Arg Arg Pro Ser Lys Pro His Met Phe Pro
 245 250 255
 Lys Ile Leu Met Lys Ile Thr Asp Leu Arg Ser Ile Ser Ala Lys Gly
 260 265 270
 Ala Glu Arg Val Ile Thr Leu Lys Met Glu Ile Pro Gly Ser Met Pro
 275 280 285
 Pro Leu Ile Gln Glu Met Leu Glu Asn Ser Glu Gly His Glu Pro Leu
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 305 310 315 320
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 325 330 335

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<211> 227
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<400> 27

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20      25      30
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35      40      45
Ala Glu Ala Lys Glu Gly Lys Glu Lys Pro Asp Gln Asp Ala Glu Gly
50      55      60
Lys Ala Glu Glu Lys Glu Gly Glu Lys Asp Ala Ala Ala Lys Glu
65      70      75      80
Glu Ala Pro Lys Ala Glu Pro Glu Lys Thr Glu Gly Ala Ala Glu Ala
85      90      95
Lys Ala Glu Pro Pro Lys Ala Pro Glu Gln Glu Gln Ala Ala Pro Gly
100      105      110
Pro Ala Ala Gly Gly Glu Ala Pro Lys Ala Ala Glu Ala Ala Ala
115      120      125
Pro Ala Glu Ser Ala Ala Pro Ala Glu Glu Glu Pro Ser Lys Glu
130      135      140
Glu Gly Glu Pro Lys Lys Thr Glu Ala Pro Ala Ala Pro Ala Ala Gln
145      150      155      160
Glu Thr Lys Ser Asp Gly Ala Pro Ala Ser Asp Ser Lys Pro Gly Ser
165      170      175
Ser Glu Ala Ala Pro Ser Ser Lys Glu Thr Pro Ala Ala Thr Glu Ala
180      185      190
Pro Ser Ser Thr Pro Lys Ala Gln Gly Pro Ala Ala Ser Ala Glu Glu
195      200      205
Pro Lys Pro Val Glu Ala Pro Ala Ala Asn Ser Asp Gln Thr Val Thr
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Val Lys Glu
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<210> 28
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 <212> PRT
 <213> homo sapiens

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20      25      30
Val Gly Leu Gly Ile Asn Pro Phe Ala Asp Gly Met Gly Ala Phe Lys
35      40      45
Leu Asn Pro Ser Ser His Glu Leu Ala Ser Ala Gly Gln Thr Ala Phe
50      55      60
Thr Ser Gln Ala Pro Gly Tyr Ala Ala Ala Ala Leu Gly His His
65      70      75      80
His His Pro Gly His Val Gly Ser Tyr Ser Ser Ala Ala Phe Asn Ser
85      90      95
Thr Arg Asp Phe Leu Phe Arg Asn Arg Gly Phe Gly Asp Ala Ala Ala
100      105      110
Ala Ala Ser Ala Gln His Ser Leu Phe Ala Ala Ser Ala Gly Gly Phe
115      120      125
Gly Gly Pro His Gly His Thr Asp Ala Ala Gly His Leu Leu Phe Pro
130      135      140
Gly Leu His Glu Gln Ala Gly His Ala Ser Pro Asn Val Val Asn
145      150      155      160
Gly Gln Met Arg Leu Gly Phe Ser Gly Asp Met Tyr Pro Arg Pro Glu
165      170      175
Gln Tyr Gly Gln Val Thr Ser Pro Arg Ser Glu His Tyr Ala Ala Pro
180      185      190
Gln Leu His Gly Tyr Gly Pro Met Asn Val Asn Met Ala Ala His His

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Gly Ala Gly Ala Phe Phe Arg Tyr Met Arg Gln Pro Ile Lys Gln Glu
 210      215      220
Leu Ile Cys Lys Trp Ile Glu Pro Glu Gln Leu Ala Asn Pro Lys Lys
 225      230      235
Ser Cys Asn Lys Thr Phe Ser Thr Met His Glu Leu Val Thr His Val
      245      250      255
Thr Val Glu His Val Gly Gly Pro Glu Gln Ser Asn His Ile Cys Phe
      260      265      270
Trp Glu Glu Cys Pro Arg Glu Gly Lys Pro Phe Lys Ala Lys Tyr Lys
      275      280      285
Leu Val Asn His Ile Arg Val His Thr Gly Glu Lys Pro Phe Pro Cys
      290      295      300
Pro Phe Pro Gly Cys Gly Lys Val Phe Ala Arg Ser Glu Asn Leu Lys
      305      310      315
Ile His Lys Arg Thr His Thr Gly Glu Lys Pro Phe Lys Cys Glu Phe
      325      330      335
Glu Gly Cys Asp Arg Arg Phe Ala Asn Ser Ser Asp Arg Lys Lys His
      340      345      350
Met His Val His Thr Ser Asp Lys Pro Tyr Leu Cys Lys Met Cys Asp
      355      360      365
Lys Ser Tyr Thr His Pro Ser Ser Leu Arg Lys His Met Lys Val His
      370      375      380
Glu Ser Ser Ser Gln Gly Ser Gln Pro Ser Pro Ala Ala Ser Ser Gly
      385      390      395
Tyr Glu Ser Ser Thr Pro Pro Thr Ile Val Ser Pro Ser Thr Asp Asn
      405      410      415
Pro Thr Thr Ser Ser Leu Ser Pro Ser Ser Ser Ala Val His His Thr
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Ala Gly His Ser Ala Leu Ser Ser Asn Phe Asn Glu Trp Tyr Val
      435      440      445

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<210> 29
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 <212> PRT
 <213> homo sapiens

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Asp Trp Asp Pro Thr Cys Met Lys Met Asp Glu Val Leu Tyr Ser Ile
      35      40      45
Ala Glu Lys Val Lys Asn Phe Ala Val Ile Tyr Leu Val Asp Ile Thr
      50      55      60
Glu Val Pro Asp Phe Asn Lys Met Tyr Glu Leu Tyr Asp Pro Cys Thr
      65      70      75
Val Met Phe Phe Phe Arg Asn Lys His Ile Met Ile Asp Leu Gly Thr
      85      90      95
Gly Asn Asn Asn Lys Ile Asn Trp Ala Met Glu Asp Lys Gln Glu Met
      100      105      110
Val Asp Ile Ile Glu Thr Val Tyr Arg Gly Ala Arg Lys Gly Arg Gly
      115      120      125
Leu Val Val Ser Pro Lys Asp Tyr Ser Thr Lys Tyr Arg Tyr
      130      135      140

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 <213> homo sapiens

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tgtccattgg actgtaaggt ttatgtaggc aatcttgga acaatggcaa caagacggaa 180

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ctagatggaa gaacactatg tggctgccgt gtaagagtgg aactgtcgaa tggtgaaaaa 360
agaagtagaa atcgtggccc acctccctct tggggctcgt gccctcgaga tgattatcgt 420
aggaggagtc ctccacctcg tcgcagatct ccaagaagga gaagcttctc tcgcagccgg 480
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aagccgtccc gatccttctc taggtctcgt agtcgatcta ggtcaaataa aaggaaatag 600
aagacagttt gcaagagaag tgggtgtacag gaaattactt catttgacag gagtatgtac 660
agaaaattca agttttgttt gagacttcat aagcttgggt catttttaag atgttttagc 720
tgttcaaatac tgtttgtctc ttgaaacagt gacacaaagg tgtaattctc tatggtttga 780
aatggatcat acgaggcatg taataccaag aattgttact ttacaatgtt cccttaagca 840
aaattgaatt tgccttgaac ttttagttat gcacagactg ataataaacc tctaaacctg 900
cccagcggaa gtgtgttttt ttttaaatat aaatacagaa acaactggca aaaattgaac 960
taagatttac ttttttttcc atagctggga tataggctgc agctatagtt gaacaagcag 1020
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gtcctgccag ttttaagggt cattgtagag ccgaactttg agttactgtg caagattttt 1320
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caaattgtta aaaaaaaaaa aaa 1403

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<210> 31
 <211> 164
 <212> PRT
 <213> homo sapiens

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<400> 31
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1      5      10      15
Leu Gly Asn Asn Gly Asn Lys Thr Glu Leu Glu Arg Ala Phe Gly Tyr
20      25      30
Tyr Gly Pro Leu Arg Ser Val Trp Val Ala Arg Asn Pro Pro Gly Phe
35      40      45
Ala Phe Val Glu Phe Glu Asp Pro Arg Asp Ala Ala Asp Ala Val Arg
50      55      60
Glu Leu Asp Gly Arg Thr Leu Cys Gly Cys Arg Val Arg Val Glu Leu
65      70      75      80
Ser Asn Gly Glu Lys Arg Ser Arg Asn Arg Gly Pro Pro Pro Ser Trp
85      90      95
Gly Arg Arg Pro Arg Asp Asp Tyr Arg Arg Arg Ser Pro Pro Pro Arg
100     105     110
Arg Arg Ser Pro Arg Arg Arg Ser Phe Ser Arg Ser Arg Ser Arg Ser
115     120     125
Leu Ser Arg Asp Arg Arg Arg Glu Arg Ser Leu Ser Arg Glu Arg Asn
130     135     140
His Lys Pro Ser Arg Ser Phe Ser Arg Ser Arg Ser Arg Ser Arg Ser
145     150     155     160
Asn Glu Arg Lys

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<210> 32
 <211> 1972
 <212> DNA
 <213> homo sapiens

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<400> 32
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aggtgcaaga ggttggcagc ttcgattgaa gcacatcgac cggcgcagac agccaggagt 120
catgagcgac agcggcgagc agaactacgg cgagcgggaa tcccgttctg cttccagaag 180
tggaagtgtc cacggatcgg ggaaatctgc aaggcatacc cctgcaaggc ctcgctcaa 240
ggaagattcc aggcgttcca gatcaaagtc caggctccga tctgaatcta ggtctagatc 300
cagaagaagc tcccgaaggc attatacccg gtcacggtct cgctcccgtc cccatagacg 360
atcacgtagc aggtcttaca gtcgagatta tcgtagacgg cacagccaca gccattctcc 420
catgtctact cgcaggcgtc atgttgggaa tcgggcaaat cctgatccta actgttgtct 480
tgaggtatgt gggctgagct tgtacaccac agaaagagat ctaagagaag tggtctctaa 540
atatgggtccc attgccgatg tgtctattgt atatgaccag cagtctaggc gttcaagagg 600

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33178SEQLIST.TXT

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tacgccaaca ccaggaattt acatggggag acctacctat ggcagctctc gccgtcggga 780
ttactatgac agaggatatg atcggggcta tgatgatcgg gactactata gcagatcata 840
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tagaaggcgg tcaccttctc cttactatag tctgtggagga tacagatcac gttccagatc 960
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acatgataag ggaacactat acctgtcatg gatgaactga agactttgcc tgttcatttt 1860
ttaaatatta ttttcaggtc ctttgcctac caaaggaggc ccaatttcac tcaaattggt 1920
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<210> 33
 <211> 288
 <212> PRT
 <213> homo sapiens

<400> 33

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			20					25					30		
Thr	Pro	Ala	Arg	Ser	Arg	Ser	Lys	Glu	Asp	Ser	Arg	Arg	Ser	Arg	Ser
			35				40					45			
Lys	Ser	Arg	Ser	Arg	Ser	Glu	Ser	Arg	Ser	Arg	Ser	Arg	Arg	Ser	Ser
			50			55					60				
Arg	Arg	His	Tyr	Thr	Arg	Ser	Arg	Ser	Arg	Ser	Arg	Ser	His	Arg	Arg
65				70					75					80	
Ser	Arg	Ser	Arg	Ser	Tyr	Ser	Arg	Asp	Tyr	Arg	Arg	Arg	His	Ser	His
				85					90				95		
Ser	His	Ser	Pro	Met	Ser	Thr	Arg	Arg	Arg	His	Val	Gly	Asn	Arg	Ala
			100					105					110		
Asn	Pro	Asp	Pro	Asn	Cys	Cys	Leu	Gly	Val	Phe	Gly	Leu	Ser	Leu	Tyr
			115				120					125			
Thr	Thr	Glu	Arg	Asp	Leu	Arg	Glu	Val	Phe	Ser	Lys	Tyr	Gly	Pro	Ile
			130			135					140				
Ala	Asp	Val	Ser	Ile	Val	Tyr	Asp	Gln	Gln	Ser	Arg	Arg	Ser	Arg	Gly
145				150						155					160
Phe	Ala	Phe	Val	Tyr	Phe	Glu	Asn	Val	Asp	Asp	Ala	Lys	Glu	Ala	Lys
				165					170					175	
Glu	Arg	Ala	Asn	Gly	Met	Glu	Leu	Asp	Gly	Arg	Arg	Ile	Arg	Val	Asp
			180					185					190		
Phe	Ser	Ile	Thr	Lys	Arg	Pro	His	Thr	Pro	Thr	Pro	Gly	Ile	Tyr	Met
			195				200					205			
Gly	Arg	Pro	Thr	Tyr	Gly	Ser	Ser	Arg	Arg	Arg	Asp	Tyr	Tyr	Asp	Arg
			210			215					220				
Gly	Tyr	Asp	Arg	Gly	Tyr	Asp	Asp	Arg	Asp	Tyr	Tyr	Ser	Arg	Ser	Tyr
225				230						235					240
Arg	Gly	Gly	Gly	Gly	Gly	Gly	Gly	Gly	Trp	Arg	Ala	Ala	Gln	Asp	Arg
				245					250					255	
Asp	Gln	Ile	Tyr	Arg	Arg	Arg	Ser	Pro	Ser	Pro	Tyr	Tyr	Ser	Arg	Gly
			260					265					270		
Gly	Tyr	Arg	Ser	Arg	Ser	Arg	Ser	Arg	Ser	Tyr	Ser	Pro	Arg	Arg	Tyr
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<210> 34
 <211> 904
 <212> DNA
 <213> homo sapiens

<400> 34
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 acctggtggg gaacgtgtac gtcaagtttc gccgtgagga agatgcggaa aaggctgtga 420
 ttgacttgaa taaccgttgg tttaatggac agccgatcca cgccgagctg tcaccctga 480
 cggacttcag agaagcctgc tgccgtcagt atgagatggg agaatgcaca cgaggcggct 540
 tctgcaactt catgcatttg aagcccattt ccagagagct gcggcgggag ctgtatggcc 600
 gccgtcgcaa gaagcataga tcaagatccc gatcccggga gcgtcgttct cggctctaga 660
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 atgtctgcta gaaagtgttg tagttgattg accaaaccag ttcataaggg gaatttttta 840
 aaaaacaaca aaaaaaaac atacaaagat ggttttctga ataaaaattt gtagtgataa 900
 cagt 904

<210> 35
 <211> 240
 <212> PRT
 <213> homo sapiens

<400> 35
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 Asn Cys Ser Phe Tyr Phe Lys Ile Gly Ala Cys Arg His Gly Asp Arg
 20 25 30
 Cys Ser Arg Leu His Asn Lys Pro Thr Phe Ser Gln Thr Ile Ala Leu
 35 40 45
 Leu Asn Ile Tyr Arg Asn Pro Gln Asn Ser Ser Gln Ser Ala Asp Gly
 50 55 60
 Leu Arg Cys Ala Val Ser Asp Val Glu Met Gln Glu His Tyr Asp Glu
 65 70 75 80
 Phe Phe Glu Glu Val Phe Thr Glu Met Glu Glu Lys Tyr Gly Glu Val
 85 90 95
 Glu Glu Met Asn Val Cys Asp Asn Leu Gly Asp His Leu Val Gly Asn
 100 105 110
 Val Tyr Val Lys Phe Arg Arg Glu Asp Ala Glu Lys Ala Val Ile
 115 120 125
 Asp Leu Asn Asn Arg Trp Phe Asn Gly Gln Pro Ile His Ala Glu Leu
 130 135 140
 Ser Pro Val Thr Asp Phe Arg Glu Ala Cys Cys Arg Gln Tyr Glu Met
 145 150 155 160
 Gly Glu Cys Thr Arg Gly Gly Phe Cys Asn Phe Met His Leu Lys Pro
 165 170 175
 Ile Ser Arg Glu Leu Arg Arg Glu Leu Tyr Gly Arg Arg Arg Lys Lys
 180 185 190
 His Arg Ser Arg Ser Arg Ser Arg Glu Arg Arg Ser Arg Ser Arg Asp
 195 200 205
 Arg Gly Arg Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Arg
 210 215 220
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 225 230 235 240

<210> 36
 <211> 2090
 <212> DNA
 <213> homo sapiens

<400> 36
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33178SEQLIST.TXT

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gcaactgcag catcacctcc atctgtgaga agccacagga agtctgtgtg gctgtatgga 600
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<210> 37
 <211> 567
 <212> PRT
 <213> homo sapiens

<400> 37

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Trp	Thr	Arg	Ile	Ala	Ser	Thr	Ile	Pro	Pro	His	Val	Gln	Lys	Ser	Val
			20					25					30		
Asn	Asn	Asp	Met	Ile	Val	Thr	Asp	Asn	Asn	Gly	Ala	Val	Lys	Phe	Pro
		35					40					45			
Gln	Leu	Cys	Lys	Phe	Cys	Asp	Val	Arg	Phe	Ser	Thr	Cys	Asp	Asn	Gln
	50					55					60				
Lys	Ser	Cys	Met	Ser	Asn	Cys	Ser	Ile	Thr	Ser	Ile	Cys	Glu	Lys	Pro
65					70				75					80	
Gln	Glu	Val	Cys	Val	Ala	Val	Trp	Arg	Lys	Asn	Asp	Glu	Asn	Ile	Thr
				85				90						95	
Leu	Glu	Thr	Val	Cys	His	Asp	Pro	Lys	Leu	Pro	Tyr	His	Asp	Phe	Ile
			100					105					110		
Leu	Glu	Asp	Ala	Ala	Ser	Pro	Lys	Cys	Ile	Met	Lys	Glu	Lys	Lys	Lys
		115					120					125			
Pro	Gly	Glu	Thr	Phe	Phe	Met	Cys	Ser	Cys	Ser	Ser	Asp	Glu	Cys	Asn
	130					135					140				
Asp	Asn	Ile	Ile	Phe	Ser	Glu	Glu	Tyr	Asn	Thr	Ser	Asn	Pro	Asp	Leu
145					150				155					160	
Leu	Leu	Val	Ile	Phe	Gln	Val	Thr	Gly	Ile	Ser	Leu	Leu	Pro	Pro	Leu
				165				170						175	
Gly	Val	Ala	Ile	Ser	Val	Ile	Ile	Ile	Phe	Tyr	Cys	Tyr	Arg	Val	Asn
			180					185					190		
Arg	Gln	Gln	Lys	Leu	Ser	Ser	Thr	Trp	Glu	Thr	Gly	Lys	Thr	Arg	Lys
		195					200					205			
Leu	Met	Glu	Phe	Ser	Glu	His	Cys	Ala	Ile	Ile	Leu	Glu	Asp	Asp	Arg

33178SEQLIST.TXT

210	215	220
Ser Asp Ile Ser Ser Thr	Cys Ala Asn Asn Ile	Asn His Asn Thr Glu
225	230	235
Leu Leu Pro Ile Glu	Leu Asp Thr Leu Val	Gly Lys Gly Arg Phe Ala
245	250	255
Glu Val Tyr Lys Ala	Lys Leu Lys Gln Asn Thr	Ser Glu Gln Phe Glu
260	265	270
Thr Val Ala Val Lys	Ile Phe Pro Tyr Glu Glu	Tyr Ala Ser Trp Lys
275	280	285
Thr Glu Lys Asp Ile	Phe Ser Asp Ile Asn Leu	Lys His Glu Asn Ile
290	295	300
Leu Gln Phe Leu Thr	Ala Glu Glu Arg Lys Thr	Glu Leu Gly Lys Gln
305	310	315
Tyr Trp Leu Ile Thr	Ala Phe His Ala Lys Gly	Asn Leu Gln Glu Tyr
325	330	335
Leu Thr Arg His Val	Ile Ser Trp Glu Asp	Leu Arg Lys Leu Gly Ser
340	345	350
Ser Leu Ala Arg Gly	Ile Ala His Leu His	Ser Asp His Thr Pro Cys
355	360	365
Gly Arg Pro Lys Met	Pro Ile Val His Arg	Asp Leu Lys Ser Ser Asn
370	375	380
Ile Leu Val Lys Asn	Asp Leu Thr Cys Cys	Leu Cys Asp Phe Gly Leu
385	390	395
Ser Leu Arg Leu Asp	Pro Thr Leu Ser Val	Asp Asp Leu Ala Asn Ser
405	410	415
Gly Gln Val Gly Thr	Ala Arg Tyr Met Ala	Pro Glu Val Leu Glu Ser
420	425	430
Arg Met Asn Leu Glu	Asn Ala Glu Ser Phe	Lys Gln Thr Asp Val Tyr
435	440	445
Ser Met Ala Leu Val	Leu Trp Glu Met Thr	Ser Arg Cys Asn Ala Val
450	455	460
Gly Glu Val Lys Asp	Tyr Glu Pro Pro Phe	Gly Ser Lys Val Arg Glu
465	470	475
His Pro Cys Val Glu	Ser Met Lys Asp Asn	Val Leu Arg Asp Arg Gly
485	490	495
Arg Pro Glu Ile Pro	Ser Phe Trp Leu Asn	His Gln Gly Ile Gln Met
500	505	510
Val Cys Glu Thr Leu	Thr Glu Cys Trp Asp	His Asp Pro Glu Ala Arg
515	520	525
Leu Thr Ala Gln Cys	Val Ala Glu Arg Phe	Ser Glu Leu Glu His Leu
530	535	540
Asp Arg Leu Ser Gly	Arg Ser Cys Ser Glu	Glu Lys Ile Pro Glu Asp
545	550	555
Gly Ser Leu Asn Thr	Lys Thr Lys	
565		

<210> 38
 <211> 1725
 <212> DNA
 <213> homo sapiens

<400> 38

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aactgagaca	tttttcaatt	tcttttctgt	catccttgct	ggggactgaa	aacgcttctg	300
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gctccccccc	tgccaccacc	cagccacagc	gcaccacaca	gcccccgcc	cagccagcat	600
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aacactcata	tgcttatggc	ttggagaaat	ttcttagttg	ggtgaattaa	agggttaatcc	840
gagaattagc	atggatatac	cgggacctca	tgcagcttgg	cagatatctg	agaaatgggtt	900

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<210> 39
 <211> 144
 <212> PRT
 <213> homo sapiens

<400> 39
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 Glu Asn Ala Ser Val Arg Leu Asp Asn Ser Ser Ser Gly Ala Ser Val
 35 40 45
 Val Ala Ile Asp Asn Lys Ile Glu Gln Ala Met Asp Leu Val Lys Ser
 50 55 60
 His Leu Met Tyr Ala Val Arg Glu Glu Val Glu Val Leu Lys Glu Gln
 65 70 75 80
 Ile Lys Glu Leu Ile Glu Lys Asn Ser Gln Leu Glu Gln Glu Asn Asn
 85 90 95
 Leu Leu Lys Thr Leu Ala Ser Pro Glu Gln Leu Ala Gln Phe Gln Ala
 100 105 110
 Gln Leu Gln Thr Gly Ser Pro Pro Ala Thr Thr Gln Pro Gln Gly Thr
 115 120 125
 Thr Gln Pro Pro Ala Gln Pro Ala Ser Gln Gly Ser Gly Pro Thr Ala
 130 135 140

<210> 40
 <211> 1693
 <212> DNA
 <213> homo sapiens

<400> 40
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 ctccgtggct taagacttga accaagtaaa cgaagttctc ttactgagaa gtctcagttt 120
 caaaagagct tctcctcatc aactggggat gattacagtt cttcctaaaa aagcctactt 180
 gatgtgaaga caatgaggat gaagaccttt atggtgatcc acttcactt aataggatgg 240
 ctgctctttt tctaaagagg ttaacactac aaactgtaaa gtctgaaaa agttgcatta 300
 gatgttttgg taaacacatc ctgcaaaaga cagcaccagc acagttgtcc cctattgctt 360
 ctgccccaaag actctccttc ctaattcatg caaaagcctt tagtaccgct gaagacaccc 420
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33178SEQLIST.TXT

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<210> 41
 <211> 278
 <212> PRT
 <213> homo sapiens

<400> 41

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20     25     30
Ala Pro Ala Gln Leu Ser Pro Ile Ala Ser Ala Pro Arg Leu Ser Phe
35     40     45
Leu Ile His Ala Lys Ala Phe Ser Thr Ala Glu Asp Thr Gln Asn Glu
50     55     60
Gly Lys Lys Thr Lys Lys Asn Lys Thr Ala Phe Ser Asn Val Gly Arg
65     70     75
Lys Ile Ser Gln Arg Val Ile His Leu Phe Asp Glu Lys Gly Asn Asp
85     90     95
Leu Gly Asn Met His Arg Ala Asn Val Ile Arg Leu Met Asp Glu Arg
100    105    110
Asp Leu Arg Leu Val Gln Arg Asn Thr Ser Thr Glu Pro Ala Glu Tyr
115    120    125
Gln Leu Met Thr Gly Leu Gln Ile Leu Gln Glu Arg Gln Arg Leu Arg
130    135    140
Glu Met Glu Lys Ala Asn Pro Lys Thr Gly Pro Thr Leu Arg Lys Glu
145    150    155
Leu Ile Leu Ser Ser Asn Ile Gly Gln His Asp Leu Asp Thr Lys Thr
165    170    175
Lys Gln Ile Gln Gln Trp Ile Lys Lys Lys His Leu Val Gln Ile Thr
180    185    190
Ile Lys Lys Gly Lys Asn Val Asp Val Ser Glu Asn Glu Met Glu Glu
195    200    205
Ile Phe His Gln Ile Leu Gln Thr Met Pro Gly Ile Ala Thr Phe Ser
210    215    220
Ser Arg Pro Gln Ala Val Gln Gly Gly Lys Ala Leu Met Cys Val Leu
225    230    235
Arg Ala Leu Ser Lys Asn Glu Glu Lys Ala Tyr Lys Glu Thr Gln Glu
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<210> 42
 <211> 1776
 <212> DNA
 <213> homo sapiens

<400> 42

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33178SEQLIST.TXT

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gcacaagctg tatcagcaga tcaaggctgg agcctatgat ttcccatcac cagaatggga 720
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<210> 43
 <211> 518
 <212> PRT
 <213> homo sapiens

<400> 43

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			20					25					30		
Lys	Lys	Thr	Ser	Thr	Gln	Glu	Tyr	Ala	Ala	Lys	Ile	Ile	Asn	Thr	Lys
			35				40					45			
Lys	Leu	Ser	Ala	Arg	Asp	His	Gln	Lys	Leu	Glu	Arg	Glu	Ala	Arg	Ile
			50			55					60				
Cys	Arg	Leu	Leu	Lys	His	Pro	Asn	Ile	Val	Arg	Leu	His	Asp	Ser	Ile
			65		70					75				80	
Ser	Glu	Glu	Gly	Phe	His	Tyr	Leu	Val	Phe	Asp	Leu	Val	Thr	Gly	Gly
			85						90					95	
Glu	Leu	Phe	Glu	Asp	Ile	Val	Ala	Arg	Glu	Tyr	Tyr	Ser	Glu	Ala	Asp
			100					105					110		
Ala	Ser	His	Cys	Ile	His	Gln	Ile	Leu	Glu	Ser	Val	Asn	His	Ile	His
			115				120					125			
Gln	His	Asp	Ile	Val	His	Arg	Asp	Leu	Lys	Pro	Glu	Asn	Leu	Leu	Leu
			130			135					140				
Ala	Ser	Lys	Cys	Lys	Gly	Ala	Ala	Val	Lys	Leu	Ala	Asp	Phe	Gly	Leu
			145		150					155				160	
Ala	Ile	Glu	Val	Gln	Gly	Glu	Gln	Gln	Ala	Trp	Phe	Gly	Phe	Ala	Gly
			165						170					175	
Thr	Pro	Gly	Tyr	Leu	Ser	Pro	Glu	Val	Leu	Arg	Lys	Asp	Pro	Tyr	Gly
			180					185					190		
Lys	Pro	Val	Asp	Ile	Trp	Ala	Cys	Gly	Val	Ile	Leu	Tyr	Ile	Leu	Leu
			195				200					205			
Val	Gly	Tyr	Pro	Pro	Phe	Trp	Asp	Glu	Asp	Gln	His	Lys	Leu	Tyr	Gln
			210			215					220				
Gln	Ile	Lys	Ala	Gly	Ala	Tyr	Asp	Phe	Pro	Ser	Pro	Glu	Trp	Asp	Thr
			225		230					235				240	
Val	Thr	Pro	Glu	Ala	Lys	Asn	Leu	Ile	Asn	Gln	Met	Leu	Thr	Ile	Asn
			245						250					255	
Pro	Ala	Lys	Arg	Ile	Thr	Ala	Asp	Gln	Ala	Leu	Lys	His	Pro	Trp	Val
			260				265						270		
Cys	Gln	Arg	Ser	Thr	Val	Ala	Ser	Met	Met	His	Arg	Gln	Glu	Thr	Val
			275				280					285			
Glu	Cys	Leu	Arg	Lys	Phe	Asn	Ala	Arg	Arg	Lys	Leu	Lys	Gly	Ala	Ile
			290			295					300				
Leu	Thr	Thr	Met	Leu	Val	Ser	Arg	Asn	Phe	Ser	Ala	Ala	Lys	Ser	Leu
			305		310				315					320	

33178SEQLIST.TXT

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 340 345 350
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 355 360 365
 Gly Ser Thr Glu Ser Cys Asn Thr Thr Thr Glu Asp Glu Asp Leu Lys
 370 375 380
 Val Arg Lys Gln Glu Ile Ile Lys Ile Thr Glu Gln Leu Ile Glu Ala
 385 390 395 400
 Ile Asn Asn Gly Asp Phe Glu Ala Tyr Thr Lys Ile Cys Asp Pro Gly
 405 410 415
 Leu Thr Ser Phe Glu Pro Glu Ala Leu Gly Asn Leu Val Glu Gly Met
 420 425 430
 Asp Phe His Lys Phe Tyr Phe Glu Asn Leu Leu Ser Lys Asn Ser Lys
 435 440 445
 Pro Ile His Thr Thr Ile Leu Asn Pro His Val His Val Ile Gly Glu
 450 455 460
 Asp Ala Ala Cys Ile Ala Tyr Ile Arg Leu Thr Gln Tyr Ile Asp Gly
 465 470 475 480
 Gln Gly Arg Pro Arg Thr Ser Gln Ser Glu Glu Thr Arg Val Trp His
 485 490 495
 Arg Arg Asp Gly Lys Trp Leu Asn Val His Tyr His Cys Ser Gly Ala
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 Pro Ala Ala Pro Leu Gln
 515

<210> 44
 <211> 1377
 <212> DNA
 <213> homo sapiens

<400> 44
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<210> 45
 <211> 387
 <212> PRT
 <213> homo sapiens

<400> 45
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 20 25 30

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 Lys Val Ile Asp Val Thr Gly Gly Ser Phe Ser Pro Glu Glu Val
 50 55 60
 Arg Glu Leu Arg Glu Ala Thr Leu Lys Glu Val Asp Ile Leu Arg Lys
 65 70 75 80
 Val Ser Gly His Pro Asn Ile Ile Gln Leu Lys Asp Thr Tyr Glu Thr
 85 90 95
 Asn Thr Phe Phe Phe Leu Val Phe Asp Leu Met Lys Arg Gly Glu Leu
 100 105 110
 Phe Asp Tyr Leu Thr Glu Lys Val Thr Leu Ser Glu Lys Glu Thr Arg
 115 120 125
 Lys Ile Met Arg Ala Leu Leu Glu Val Ile Cys Thr Leu His Lys Leu
 130 135 140
 Asn Ile Val His Arg Asp Leu Lys Pro Glu Asn Ile Leu Leu Asp Asp
 145 150 155 160
 Asn Met Asn Ile Lys Leu Thr Asp Phe Gly Phe Ser Cys Gln Leu Glu
 165 170 175
 Pro Gly Glu Arg Leu Arg Glu Val Cys Gly Thr Pro Ser Tyr Leu Ala
 180 185 190
 Pro Glu Ile Ile Glu Cys Ser Met Asn Glu Asp His Pro Gly Tyr Gly
 195 200 205
 Lys Glu Val Asp Met Trp Ser Thr Gly Val Ile Met Tyr Thr Leu Leu
 210 215 220
 Ala Gly Ser Pro Pro Phe Trp His Arg Lys Gln Met Leu Met Leu Arg
 225 230 235 240
 Met Ile Met Ser Gly Asn Tyr Gln Phe Gly Ser Pro Glu Trp Asp Asp
 245 250 255
 Tyr Ser Asp Thr Val Lys Asp Leu Val Ser Arg Phe Leu Val Val Gln
 260 265 270
 Pro Gln Asn Arg Tyr Thr Ala Glu Glu Ala Leu Ala His Pro Phe Phe
 275 280 285
 Gln Gln Tyr Leu Val Glu Glu Val Arg His Phe Ser Pro Arg Gly Lys
 290 295 300
 Phe Lys Val Ile Ala Leu Thr Val Leu Ala Ser Val Arg Ile Tyr Tyr
 305 310 315 320
 Gln Tyr Arg Arg Val Lys Pro Val Thr Arg Glu Ile Val Ile Arg Asp
 325 330 335
 Pro Tyr Ala Leu Arg Pro Leu Arg Arg Leu Ile Asp Ala Tyr Ala Phe
 340 345 350
 Arg Ile Tyr Gly His Trp Val Lys Lys Gly Gln Gln Gln Asn Arg Ala
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 Ala Leu Phe Glu Asn Thr Pro Lys Ala Val Leu Leu Ser Leu Ala Glu
 370 375 380
 Glu Asp Tyr
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<210> 46
 <211> 2360
 <212> DNA
 <213> homo sapiens

<400> 46
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33178SEQLIST.TXT

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ataaaaaaaaa aaaaaaaaaa 2360

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<210> 47
 <211> 208
 <212> PRT
 <213> homo sapiens

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<400> 47
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 20      25      30
Leu Ala Ala Gly Thr Ser Asn Pro Asp Pro Pro Thr Val Ser Thr Asp
 35      40      45
Gln Leu Leu Pro Leu Gly Gly Gly Arg Asp Arg Lys Val Arg Asp Leu
 50      55      60
Gln Glu Ala Asp Leu Asp Leu Leu Arg Val Thr Leu Ser Ser Lys Pro
 65      70      75
Gln Ala Leu Ala Thr Pro Asn Lys Glu Glu His Gly Lys Arg Lys Lys
 80      85      90
Lys Gly Lys Gly Leu Gly Lys Lys Arg Asp Pro Cys Leu Arg Lys Tyr
 95      100      105
Lys Asp Phe Cys Ile His Gly Glu Cys Lys Tyr Val Lys Glu Leu Arg
 110      115      120
Ala Pro Ser Cys Ile Cys His Pro Gly Tyr His Gly Glu Arg Cys His
 125      130      135
Gly Leu Ser Leu Pro Val Glu Asn Arg Leu Tyr Thr Tyr Asp His Thr
 140      145      150
Thr Ile Leu Ala Val Val Ala Val Val Leu Ser Ser Val Cys Leu Leu
 155      160      165
Val Ile Val Gly Leu Leu Met Phe Arg Tyr His Arg Arg Gly Gly Tyr
 170      175      180
Asp Val Glu Asn Glu Glu Lys Val Lys Leu Gly Met Thr Asn Ser His
 185      190      195
200      205

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<210> 48
 <211> 4119
 <212> DNA
 <213> homo sapiens

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<400> 48
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<210> 59
 <211> 941
 <212> PRT
 <213> homo sapiens

<400> 59

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			20					25					30		
Asp	Ile	Gly	Pro	Ala	Arg	Asp	Ala	Asn	Asp	Pro	Val	Asp	Asp	Arg	His
		35					40					45			
Ala	Pro	Pro	Gly	Lys	Arg	Thr	Val	Gly	Asp	Gln	Met	Lys	Lys	Asn	Gln
		50				55					60				
Ala	Ala	Asp	Asp	Asp	Asp	Glu	Asp	Leu	Asn	Asp	Thr	Asn	Tyr	Asp	Glu
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Phe	Asn	Gly	Tyr	Ala	Gly	Ser	Leu	Phe	Ser	Ser	Gly	Pro	Tyr	Glu	Lys
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Asp	Asp	Glu	Glu	Ala	Asp	Ala	Ile	Tyr	Ala	Ala	Leu	Asp	Lys	Arg	Met
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Asp	Glu	Arg	Arg	Lys	Glu	Arg	Arg	Glu	Gln	Arg	Glu	Lys	Glu	Glu	Ile
		115					120					125			
Glu	Lys	Tyr	Arg	Met	Glu	Arg	Pro	Lys	Ile	Gln	Gln	Gln	Phe	Ser	Asp
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Leu	Lys	Arg	Lys	Leu	Ala	Glu	Val	Thr	Glu	Glu	Glu	Trp	Leu	Ser	Ile
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Pro	Glu	Val	Gly	Asp	Ala	Arg	Asn	Lys	Arg	Gln	Arg	Asn	Pro	Arg	Tyr
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Glu	Lys	Leu	Thr	Pro	Val	Pro	Asp	Ser	Phe	Phe	Ala	Lys	His	Leu	Gln
		180						185					190		
Thr	Gly	Glu	Asn	His	Thr	Ser	Val	Asp	Pro	Arg	Gln	Thr	Gln	Phe	Gly
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Gly	Leu	Asn	Thr	Pro	Tyr	Pro	Gly	Gly	Leu	Asn	Thr	Pro	Tyr	Pro	Gly
		210				215					220				
Gly	Met	Thr	Pro	Gly	Leu	Met	Thr	Pro	Gly	Thr	Gly	Glu	Leu	Asp	Met
		225			230					235				240	
Arg	Lys	Ile	Gly	Gln	Ala	Arg	Asn	Thr	Leu	Met	Asp	Met	Arg	Leu	Ser
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Gln	Val	Ser	Asp	Ser	Val	Ser	Gly	Gln	Thr	Val	Val	Asp	Pro	Lys	Gly
		260						265					270		
Tyr	Leu	Thr	Asp	Leu	Asn	Ser	Met	Ile	Pro	Thr	His	Gly	Gly	Asp	Ile
		275					280					285			
Asn	Asp	Ile	Lys	Lys	Ala	Arg	Leu	Leu	Leu	Lys	Ser	Val	Arg	Glu	Thr
		290				295					300				
Asn	Pro	His	His	Pro	Pro	Ala	Trp	Ile	Ala	Ser	Ala	Arg	Leu	Glu	Glu
		305			310					315				320	
Val	Thr	Gly	Lys	Leu	Gln	Val	Ala	Arg	Asn	Leu	Ile	Met	Lys	Gly	Thr
			325					330						335	
Glu	Met	Cys	Pro	Lys	Ser	Glu	Asp	Val	Trp	Leu	Glu	Ala	Ala	Arg	Leu
		340						345					350		
Gln	Pro	Gly	Asp	Thr	Ala	Lys	Ala	Val	Val	Ala	Gln	Ala	Val	Arg	His
		355					360					365			
Leu	Pro	Gln	Ser	Val	Arg	Ile	Tyr	Ile	Arg	Ala	Ala	Glu	Leu	Glu	Thr
		370				375					380				
Asp	Ile	Arg	Ala	Lys	Lys	Arg	Val	Leu	Arg	Lys	Ala	Leu	Glu	His	Val
		385			390					395				400	
Pro	Asn	Ser	Val	Arg	Leu	Trp	Lys	Ala	Ala	Val	Glu	Leu	Glu	Glu	Pro
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Glu	Asp	Ala	Arg	Ile	Met	Leu	Ser	Arg	Ala	Val	Glu	Cys	Cys	Pro	Thr
		420						425				430			
Ser	Val	Glu	Leu	Trp	Leu	Ala	Leu	Ala	Arg	Leu	Glu	Thr	Tyr	Glu	Asn
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33178SEQLIST.TXT

His Ile Trp Ile Thr Ala Ala Lys Leu Glu Glu Ala Asn Gly Asn Thr
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 Gln Met Val Glu Lys Ile Ile Asp Arg Ala Ile Thr Ser Leu Arg Ala
 485 490 495
 Asn Gly Val Glu Ile Asn Arg Glu Gln Trp Ile Gln Asp Ala Glu Glu
 500 505 510
 Cys Asp Arg Ala Gly Ser Val Ala Thr Cys Gln Ala Val Met Arg Ala
 515 520 525
 Val Ile Gly Ile Gly Ile Glu Glu Glu Asp Arg Lys His Thr Trp Met
 530 535 540
 Glu Asp Ala Asp Ser Cys Val Ala His Asn Ala Leu Glu Cys Ala Arg
 545 550 555 560
 Ala Ile Tyr Ala Tyr Ala Leu Gln Val Phe Pro Ser Lys Lys Ser Val
 565 570 575
 Trp Leu Arg Ala Ala Tyr Phe Glu Lys Asn His Gly Thr Arg Glu Ser
 580 585 590
 Leu Glu Ala Leu Leu Gln Arg Ala Val Ala His Cys Pro Lys Ala Glu
 595 600 605
 Val Leu Trp Leu Met Gly Ala Lys Ser Lys Trp Leu Ala Gly Asp Val
 610 615 620
 Pro Ala Ala Arg Ser Ile Leu Ala Leu Ala Phe Gln Ala Asn Pro Asn
 625 630 635 640
 Ser Glu Glu Ile Trp Leu Ala Ala Val Lys Leu Glu Ser Glu Asn Asp
 645 650 655
 Glu Tyr Glu Arg Ala Arg Arg Leu Leu Ala Lys Ala Arg Ser Ala
 660 665 670
 Pro Thr Ala Arg Val Phe Met Lys Ser Val Lys Leu Glu Trp Val Gln
 675 680 685
 Asp Asn Ile Arg Ala Ala Gln Asp Leu Cys Glu Glu Ala Leu Arg His
 690 695 700
 Tyr Glu Asp Phe Pro Lys Leu Trp Met Met Lys Gly Gln Ile Glu Glu
 705 710 715 720
 Gln Lys Glu Met Met Glu Lys Ala Arg Glu Ala Tyr Asn Gln Gly Leu
 725 730 735
 Lys Lys Cys Pro His Ser Thr Pro Leu Trp Leu Leu Leu Ser Arg Leu
 740 745 750
 Glu Glu Lys Ile Gly Gln Leu Thr Arg Ala Arg Ala Ile Leu Glu Lys
 755 760 765
 Ser Arg Leu Lys Asn Pro Lys Asn Pro Gly Leu Trp Leu Glu Ser Val
 770 775 780
 Arg Leu Glu Tyr Arg Ala Gly Leu Lys Asn Ile Ala Asn Thr Leu Met
 785 790 795 800
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 805 810 815
 Ala Ile Phe Leu Glu Ala Arg Pro Gln Arg Arg Thr Lys Ser Val Asp
 820 825 830
 Ala Leu Lys Lys Cys Glu His Asp Pro His Val Leu Leu Ala Val Ala
 835 840 845
 Lys Leu Phe Trp Ser Gln Arg Lys Ile Thr Lys Ala Arg Glu Trp Phe
 850 855 860
 His Arg Thr Val Lys Ile Asp Ser Asp Leu Gly Asp Ala Trp Ala Phe
 865 870 875 880
 Phe Tyr Lys Phe Glu Leu Gln His Gly Thr Glu Glu Gln Gln Glu Glu
 885 890 895
 Val Arg Lys Arg Cys Glu Ser Ala Glu Pro Arg His Gly Glu Leu Trp
 900 905 910
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<210> 60
 <211> 1287
 <212> DNA
 <213> homo sapiens

<400> 60

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<210> 61
 <211> 232
 <212> PRT
 <213> homo sapiens

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Leu Gly Thr Ala Gly Thr Glu Glu Lys Lys Lys Leu Ile Arg Asp Phe
35     40     45
Asp Glu Lys Gln Gln Glu Ala Asn Glu Thr Leu Ala Glu Met Glu Glu
50     55     60
Glu Leu Arg Tyr Ala Pro Leu Ser Phe Arg Asn Pro Met Met Ser Lys
65     70     75     80
Leu Arg Asn Tyr Arg Lys Asp Leu Ala Lys Leu His Arg Glu Val Arg
85     90     95
Ser Thr Pro Leu Thr Ala Thr Pro Gly Gly Arg Gly Asp Met Lys Tyr
100    105    110
Gly Ile Tyr Ala Val Glu Asn Glu His Met Asn Arg Leu Gln Ser Gln
115    120    125
Arg Ala Met Leu Leu Gln Gly Thr Glu Ser Leu Asn Arg Ala Thr Gln
130    135    140
Ser Ile Glu Arg Ser His Arg Ile Ala Thr Glu Thr Asp Gln Ile Gly
145    150    155    160
Ser Glu Ile Ile Glu Glu Leu Gly Glu Gln Arg Asp Gln Leu Glu Arg
165    170    175
Thr Lys Ser Arg Leu Val Asn Thr Ser Glu Asn Leu Ser Lys Ser Arg
180    185    190
Lys Ile Leu Arg Ser Met Ser Arg Lys Val Thr Thr Asn Lys Leu Leu
195    200    205
Leu Ser Ile Ile Ile Leu Leu Glu Leu Ala Ile Leu Gly Gly Leu Val
210    215    220
Tyr Tyr Lys Phe Phe Arg Ser His
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<210> 62
 <211> 1869
 <212> DNA
 <213> homo sapiens

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<400> 62
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33178SEQLIST.TXT

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<210> 63
 <211> 474
 <212> PRT
 <213> homo sapiens

<400> 63

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20      25      30
Gly Ser Gln Thr Phe Val Asn Pro His Val Ser Ser Phe Gln Gly Ser
35      40      45
Lys Arg Gly Leu Asn Ser Ser Phe Glu Thr Ser Pro Lys Lys Val Lys
50      55      60
Trp Ser Ser Thr Val Thr Ser Pro Arg Leu Ser Leu Phe Ser Asp Gly
65      70      75      80
Asp Ser Ser Glu Ser Glu Asp Thr Leu Ser Ser Ser Glu Arg Ser Lys
85      90      95
Gly Ser Gly Ser Arg Pro Pro Thr Pro Lys Ser Ser Pro Gln Lys Thr
100     105     110
Arg Lys Ser Pro Gln Val Thr Arg Gly Ser Pro Gln Lys Thr Ser Cys
115     120     125
Ser Pro Gln Lys Thr Arg Gln Ser Pro Gln Thr Leu Lys Arg Ser Arg
130     135     140
Val Thr Thr Ser Leu Glu Ala Leu Pro Thr Gly Thr Val Leu Thr Asp
145     150     155     160
Lys Ser Gly Arg Gln Trp Lys Leu Lys Ser Phe Gln Thr Arg Asp Asn
165     170     175
Gln Gly Ile Leu Tyr Glu Ala Ala Pro Thr Ser Thr Leu Thr Cys Asp
180     185     190
Ser Gly Pro Gln Lys Gln Lys Phe Ser Leu Lys Leu Asp Ala Lys Asp
195     200     205
Gly Arg Leu Phe Asn Glu Gln Asn Phe Phe Gln Arg Ala Ala Lys Pro
210     215     220
Leu Gln Val Asn Lys Trp Lys Lys Leu Tyr Ser Thr Pro Leu Leu Ala
225     230     235     240

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Ile Pro Thr Cys Met Gly Phe Gly Val His Gln Asp Lys Tyr Arg Phe
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 Leu Val Leu Pro Ser Leu Gly Arg Ser Leu Gln Ser Ala Leu Asp Val
 260 265 270
 Ser Pro Lys His Val Leu Ser Glu Arg Ser Val Leu Gln Val Ala Cys
 275 280 285
 Arg Leu Leu Asp Ala Leu Glu Phe Leu His Glu Asn Glu Tyr Val His
 290 295 300
 Gly Asn Val Thr Ala Glu Asn Ile Phe Val Asp Pro Glu Asp Gln Ser
 305 310 315 320
 Gln Val Thr Leu Ala Gly Tyr Gly Phe Ala Phe Arg Tyr Cys Pro Ser
 325 330 335
 Gly Lys His Val Ala Tyr Val Glu Gly Ser Arg Ser Pro His Glu Gly
 340 345 350
 Asp Leu Glu Phe Ile Ser Met Asp Leu His Lys Gly Cys Gly Pro Ser
 355 360 365
 Arg Arg Ser Asp Leu Gln Ser Leu Gly Tyr Cys Met Leu Lys Trp Leu
 370 375 380
 Tyr Gly Phe Leu Pro Trp Thr Asn Cys Leu Pro Asn Thr Glu Asp Ile
 385 390 395 400
 Met Lys Gln Lys Gln Lys Phe Val Asp Lys Pro Gly Pro Phe Val Gly
 405 410 415
 Pro Cys Gly His Trp Ile Arg Pro Ser Glu Thr Leu Gln Lys Tyr Leu
 420 425 430
 Lys Val Val Met Ala Leu Thr Tyr Glu Glu Lys Pro Pro Tyr Ala Met
 435 440 445
 Leu Arg Asn Asn Leu Glu Ala Leu Leu Gln Asp Leu Arg Val Ser Pro
 450 455 460
 Tyr Asp Pro Ile Gly Leu Pro Met Val Pro
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<210> 64
 <211> 1543
 <212> DNA
 <213> homo sapiens

<400> 64
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 aagatgggtg ccaggaagaa cacggaaggg gccctggacc ttctgaagaa gctgcacagc 240
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 aagcggctgc tagactcccc tggaccccca aaaggagaaa aaggagagga aagagaaaag 420
 gcaaagaaga aggaaaaagg gcttgagtgt tcagactgga agccagaagc aggcctttct 480
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 attaaagtga aggaaaatac tgaactctgt ctgagtggga tggatagagt tagaggaaga 1320
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 ggagaatgat gctgagaatt tgtattgatg aacctcttt agaaactgca gagggctggg 1440
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 accccagaag tttgagtcca gcccaggcaa cacagcaaga ccc 1543

<210> 65
 <211> 348
 <212> PRT

<213> homo sapiens

<400> 65

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 20      25      30
Leu His Ser Cys Gln Met Ser Ile Gln Leu Leu Gln Thr Thr Arg Ile
 35      40      45
Gly Val Ala Val Asn Gly Val Arg Lys His Cys Ser Asp Lys Glu Val
 50      55      60
Val Ser Leu Ala Lys Val Leu Ile Lys Asn Trp Lys Arg Leu Leu Asp
 65      70      75      80
Ser Pro Gly Pro Pro Lys Gly Glu Lys Gly Glu Glu Arg Glu Lys Ala
 85      90      95
Lys Lys Lys Glu Lys Gly Leu Glu Cys Ser Asp Trp Lys Pro Glu Ala
100      105      110
Gly Leu Ser Pro Pro Arg Lys Lys Arg Glu Asp Pro Lys Thr Arg Arg
115      120      125
Asp Ser Val Asp Ser Lys Ser Ser Ala Ser Ser Ser Pro Lys Arg Pro
130      135      140
Ser Val Glu Arg Ser Asn Ser Ser Lys Ser Lys Ala Glu Ser Pro Lys
145      150      155      160
Thr Pro Ser Ser Pro Leu Thr Pro Thr Phe Ala Ser Ser Met Cys Leu
165      170      175
Leu Ala Pro Cys Tyr Leu Thr Gly Asp Ser Val Arg Asp Lys Cys Val
180      185      190
Glu Met Leu Ser Ala Ala Leu Lys Ala Asp Asp Asp Tyr Lys Asp Tyr
195      200      205
Gly Val Asn Cys Asp Lys Met Ala Ser Glu Ile Glu Asp His Ile Tyr
210      215      220
Gln Glu Leu Lys Ser Thr Asp Met Lys Tyr Arg Asn Arg Val Arg Ser
225      230      235      240
Arg Ile Ser Asn Leu Lys Asp Pro Arg Asn Pro Gly Leu Arg Arg Asn
245      250      255
Val Leu Ser Gly Ala Ile Ser Ala Gly Leu Ile Ala Lys Met Thr Ala
260      265      270
Glu Glu Met Ala Ser Asp Glu Leu Arg Glu Leu Arg Asn Ala Met Thr
275      280      285
Gln Glu Ala Ile Arg Glu His Gln Met Ala Lys Thr Gly Gly Thr Thr
290      295      300
Thr Asp Leu Phe Gln Cys Ser Lys Cys Lys Lys Lys Asn Cys Thr Tyr
305      310      315      320
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<210> 66

<211> 2430

<212> DNA

<213> homo sapiens

<400> 66

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33178SEQLIST.TXT

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 <212> PRT
 <213> homo sapiens

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 Asn Asp Leu Tyr Arg Trp Glu Val Leu Ile Ile Gly Pro Pro Asp Thr
 35 40 45
 Leu Tyr Glu Gly Gly Val Phe Lys Ala His Leu Thr Phe Pro Lys Asp
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 Tyr Pro Leu Arg Pro Pro Lys Met Lys Phe Ile Thr Glu Ile Trp His
 65 70 75 80
 Pro Asn Val Asp Lys Asn Gly Asp Val Cys Ile Ser Ile Leu His Glu
 85 90 95
 Pro Gly Glu Asp Lys Tyr Gly Tyr Glu Lys Pro Glu Glu Arg Trp Leu
 100 105 110
 Pro Ile His Thr Val Glu Thr Ile Met Ile Ser Val Ile Ser Met Leu
 115 120 125
 Ala Asp Pro Asn Gly Asp Ser Pro Ala Asn Val Asp Ala Ala Lys Glu
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 Val Arg Lys Ser Gln Glu Thr Ala Phe Glu
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 <212> DNA
 <213> homo sapiens

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<210> 69
 <211> 574
 <212> PRT
 <213> homo sapiens

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20     25     30
Arg Trp Pro Pro Pro Lys Pro Arg Leu Lys Ser Gly Gly Phe
35     40     45
Gly Pro Asp Pro Gly Ser Gly Thr Thr Val Pro Ala Arg Arg Leu Pro
50     55     60
Val Pro Arg Pro Ser Phe Asp Ala Ser Ala Ser Glu Glu Glu Glu Glu
65     70     75     80
Glu Glu Glu Glu Glu Asp Glu Asp Glu Glu Glu Glu Val Ala Ala Trp
85     90     95
Arg Leu Pro Pro Arg Trp Ser Gln Leu Gly Thr Ser Gln Arg Pro Arg
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Pro Ser Arg Pro Thr His Arg Lys Thr Cys Ser Gln Arg Arg Arg
115    120    125
Ala Met Arg Ala Phe Arg Met Leu Leu Tyr Ser Lys Ser Thr Ser Leu
130    135    140
Thr Phe His Trp Lys Leu Trp Gly Arg His Arg Gly Arg Arg Arg Gly
145    150    155    160
Leu Ala His Pro Lys Asn His Leu Ser Pro Gln Gln Gly Gly Ala Thr
165    170    175
Pro Gln Val Pro Ser Pro Cys Cys Arg Phe Asp Ser Pro Arg Gly Pro
180    185    190
Pro Pro Pro Arg Leu Gly Leu Leu Gly Ala Leu Met Ala Glu Asp Gly
195    200    205

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 Leu Ser Cys Thr Leu Pro Asn Gly Phe Gly Gly Gln Ser Gly Pro Glu
 245 250 255
 Gly Glu Arg Ser Leu Ala Pro Pro Asp Ala Ser Ile Leu Ile Ser Asn
 260 265 270
 Val Cys Ser Ile Gly Asp His Val Ala Gln Glu Leu Phe Gln Gly Ser
 275 280 285
 Asp Leu Gly Met Ala Glu Glu Ala Glu Arg Pro Gly Glu Lys Ala Gly
 290 295 300
 Gln His Ser Pro Leu Arg Glu Glu His Val Thr Cys Val Gln Ser Ile
 305 310 315 320
 Leu Asp Glu Phe Leu Gln Thr Tyr Gly Ser Leu Ile Pro Leu Ser Thr
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 Asp Glu Val Val Glu Lys Leu Glu Asp Ile Phe Gln Gln Glu Phe Ser
 340 345 350
 Thr Pro Ser Arg Lys Gly Leu Val Leu Gln Leu Ile Gln Ser Tyr Gln
 355 360 365
 Arg Met Pro Gly Asn Ala Met Val Arg Gly Phe Arg Val Ala Tyr Lys
 370 375 380
 Arg His Val Leu Thr Met Asp Asp Leu Gly Thr Leu Tyr Gly Gln Asn
 385 390 395 400
 Trp Leu Asn Asp Gln Val Met Asn Met Tyr Gly Asp Leu Val Met Asp
 405 410 415
 Thr Val Pro Glu Lys Val His Phe Phe Asn Ser Phe Phe Tyr Asp Lys
 420 425 430
 Leu Arg Thr Lys Gly Tyr Asp Gly Val Lys Arg Trp Thr Lys Asn Val
 435 440 445
 Asp Ile Phe Asn Lys Glu Leu Leu Ile Pro Ile His Leu Glu Val
 450 455 460
 His Trp Ser Leu Ile Ser Val Asp Val Arg Arg Arg Thr Ile Thr Tyr
 465 470 475 480
 Phe Asp Ser Gln Arg Thr Leu Asn Arg Arg Cys Pro Lys His Ile Ala
 485 490 495
 Lys Tyr Leu Gln Ala Glu Ala Val Lys Lys Asp Arg Leu Asp Phe His
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 515 520 525
 Asp Ser Asp Cys Gly Ala Phe Val Leu Gln Tyr Cys Lys His Leu Ala
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 <212> PRT
 <213> homo sapiens

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 35 40 45
 Arg Tyr Met Glu Val Ser Gly Asn Leu Arg Asp Leu Tyr Asp Asp Lys
 50 55 60
 Asp Gly Leu Arg Lys Glu Glu Leu Asn Ala Ile Ser Gly Pro Asn Glu
 65 70 75 80
 Phe Ala Glu Phe Tyr Asn Arg Leu Lys Gln Ile Lys Glu Phe His Arg
 85 90 95
 Lys His Pro Asn Glu Ile Cys Val Pro Met Ser Val Glu Phe Glu Glu
 100 105 110
 Leu Leu Lys Ala Arg Glu Asn Pro Ser Glu Glu Ala Gln Asn Leu Val
 115 120 125
 Glu Phe Thr Asp Glu Glu Gly Tyr Gly Arg Tyr Leu Asp Leu His Asp
 130 135 140
 Cys Tyr Leu Lys Tyr Ile Asn Leu Lys Ala Ser Glu Lys Leu Asp Tyr
 145 150 155 160
 Ile Thr Tyr Leu Ser Ile Phe Asp Gln Leu Phe Asp Ile Pro Lys Glu
 165 170 175
 Arg Lys Asn Ala Glu Tyr Lys Arg Tyr Leu Glu Met Leu Leu Glu Tyr
 180 185 190
 Leu Gln Asp Tyr Thr Asp Arg Val Lys Pro Leu Gln Asp Gln Asn Glu
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 Thr Phe Pro Gly Trp Pro Lys Glu Thr Ser Ser Ala Leu Thr His Ala

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 260 265 270
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 275 280 285
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 305 310 315 320
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 325 330 335
 Gln Arg His Leu Thr His Glu Asn Val Gln Arg Lys Gln Ala Arg Thr
 340 345 350
 Gly Glu Glu Arg Glu Glu Glu Glu Glu Gln Ile Ser Glu Ser Glu
 355 360 365
 Ser Glu Asp Glu Glu Asn Glu Ile Ile Tyr Asn Pro Lys Asn Leu Pro
 370 375 380
 Leu Gly Trp Asp Gly Lys Pro Ile Pro Tyr Trp Leu Tyr Lys Leu His
 385 390 395 400
 Gly Leu Asn Ile Asn Tyr Asn Cys Glu Ile Cys Gly Asn Tyr Thr Tyr
 405 410 415
 Arg Gly Pro Lys Ala Phe Gln Arg His Phe Ala Glu Trp Arg His Ala
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 His Gly Met Arg Cys Leu Gly Ile Pro Asn Thr Ala His Phe Ala Asn
 435 440 445
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 450 455 460
 Gln Lys Ala Ser Glu Arg Trp Gln Pro Asp Thr Glu Glu Glu Tyr Glu
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 <212> DNA
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<210> 73
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 <212> PRT
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<400> 73

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35     40     45
Glu Asp Thr Ser Tyr Asp Asp Ser Asp Ile Leu Asn Ser Thr Ala Ala
50     55     60
Asp Glu Val Thr Ala His Leu Ala Ala Ala Gly Pro Val Gly Met Ala
65     70     75     80
Ala Ala Ala Ala Val Ala Thr Gly Lys Lys Arg Lys Arg Pro His Val
85     90     95
Phe Glu Ser Asn Pro Ser Ile Arg Lys Arg Gln Gln Thr Arg Leu Leu
100    105    110
Arg Lys Leu Arg Ala Thr Leu Asp Glu Tyr Thr Thr Arg Val Gly Gln
115    120    125
Gln Ala Ile Val Leu Cys Ile Ser Pro Ser Lys Pro Asn Pro Val Phe
130    135    140
Lys Val Phe Gly Ala Ala Pro Leu Glu Asn Val Val Arg Lys Tyr Lys
145    150    155    160
Ser Met Ile Leu Glu Asp Leu Glu Ser Ala Leu Ala Glu His Ala Pro
165    170    175
Ala Pro Gln Glu Val Asn Ser Glu Leu Pro Pro Leu Thr Ile Asp Gly
180    185    190
Ile Pro Val Ser Val Asp Lys Met Thr Gln Ala Gln Leu Arg Ala Phe
195    200    205
Ile Pro Glu Met Leu Lys Tyr Ser Thr Gly Arg Gly Lys Pro Gly Trp
210    215    220
Gly Lys Glu Ser Cys Lys Pro Ile Trp Trp Pro Glu Asp Ile Pro Trp
225    230    235    240
Ala Asn Val Arg Ser Asp Val Arg Thr Glu Gln Lys Gln Arg Val
245    250    255
Ser Trp Thr Gln Ala Leu Arg Thr Ile Val Lys Asn Cys Tyr Lys Gln
260    265    270
His Gly Arg Glu Asp Leu Leu Tyr Ala Phe Glu Asp Gln Gln Thr Gln
275    280    285
Thr Gln Ala Thr Ala Thr His Ser Ile Ala His Leu Val Pro Ser Gln
290    295    300
Thr Val Val Gln Thr Phe Ser Asn Pro Asp Gly Thr Val Ser Leu Ile
305    310    315    320
Gln Val Gly Thr Gly Ala Thr Val Ala Thr Leu Ala Asp Ala Ser Glu
325    330    335
Leu Pro Thr Thr Val Thr Val Ala Gln Val Asn Tyr Ser Ala Val Ala
340    345    350

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33178SEQLIST.TXT

Asp Gly Glu Val Glu Gln Asn Trp Ala Thr Leu Gln Gly Gly Glu Met
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 Thr Ile Gln Thr Thr Gln Ala Ser Glu Ala Thr Gln Ala Val Ala Ser
 370 375 380
 Leu Ala Glu Ala Ala Val Ala Ala Ser Gln Glu Met Gln Gln Gly Ala
 385 390 395 400
 Thr Val Thr Met Ala Leu Asn Ser Glu Ala Ala His Ala Val Ala
 405 410 415
 Thr Leu Ala Glu Ala Thr Leu Gln Gly Gly Gly Gln Ile Val Leu Ser
 420 425 430
 Gly Glu Thr Ala Ala Ala Val Gly Ala Leu Thr Gly Val Gln Asp Ala
 435 440 445
 Asn Gly Leu Phe Met Ala Asp Arg Ala Gly Arg Lys Trp Ile Leu Thr
 450 455 460
 Asp Lys Ala Thr Gly Leu Val Gln Ile Pro Val Ser Met Tyr Gln Thr
 465 470 475 480
 Val Val Thr Ser Leu Ala Gln Gly Asn Gly Pro Val Gln Val Ala Met
 485 490 495
 Ala Pro Val Thr Thr Arg Ile Ser Asp Ser Ala Val Thr Met Asp Gly
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 Gln Ala Val Glu Val Val Thr Leu Glu Gln
 515 520

<210> 74
 <211> 1806
 <212> DNA
 <213> homo sapiens

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 ggagcccagt gctcgcaggc cggcgggcgg gccggagggc tgcagtctcc ctccggtga 180
 gaggaaggcg gaggagcggg aaccgcggcg gcgctcgcgc ggcgcctgcg gggggaaggg 240
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 gggtagggcg ggcgactgga gaaatcaagt tgtgcggtc gtgatgccg agtgagcggg 360
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 ccgagaggct tcgtttcggt ttcgcggcg cggcggcggt gttggctgag gggaccgcgg 480
 acacctgaat gccccggcc ccggctcctc cgacgcgat ggggaagggtc tatccaaaat 540
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 aatcctgtac aagttgaagc tgggccagtc ggtgaccacc attcccactg tgggtttcaa 660
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 ttgttgactt ccagcagaat ggggaatggg gaaacacagc agttcttggg taaaagtccc 1380
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<210> 75
 <211> 175
 <212> PRT
 <213> homo sapiens

<400> 75

33178SEQLIST.TXT

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20      25      30
Leu Lys Leu Gly Gln Ser Val Thr Thr Ile Pro Thr Val Gly Phe Asn
35      40      45
Val Glu Thr Val Thr Tyr Lys Asn Val Lys Phe Asn Val Trp Asp Val
50      55      60
Gly Gly Gln Asp Lys Ile Arg Pro Leu Trp Arg His Tyr Tyr Thr Gly
65      70      75      80
Thr Gln Gly Leu Ile Phe Val Val Asp Cys Ala Asp Arg Asp Arg Ile
85      90      95
Asp Glu Ala Arg Gln Glu Leu His Arg Ile Ile Asn Asp Arg Glu Met
100     105     110
Arg Asp Ala Ile Ile Leu Ile Phe Ala Asn Lys Gln Asp Leu Pro Asp
115     120     125
Ala Met Lys Pro His Glu Ile Gln Glu Lys Leu Gly Leu Thr Arg Ile
130     135     140
Arg Asp Arg Asn Trp Tyr Val Gln Pro Ser Cys Ala Thr Ser Gly Asp
145     150     155     160
Gly Leu Tyr Glu Gly Leu Thr Trp Leu Thr Ser Asn Tyr Lys Ser
165     170     175

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<210> 76
<211> 1407
<212> DNA
<213> homo sapiens

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<400> 76
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<210> 77
<211> 249
<212> PRT
<213> homo sapiens

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<400> 77
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20      25      30
Ala Cys Leu Gly Leu Leu Leu Ala Val Val Ser Leu Gly Ser Arg Ala
35      40      45
Ser Leu Ser Ala Gln Glu Pro Ala Gln Glu Glu Leu Val Ala Glu Glu

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33178SEQLIST.TXT

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	85	90
Lys Gly Arg Lys Thr Arg Ala Arg Arg Ala Ile Ala Ala His Tyr Glu		95
	100	105
Val His Pro Arg Pro Gly Gln Asp Gly Ala Gln Ala Gly Val Asp Gly		110
	115	120
Thr Val Ser Gly Trp Glu Glu Ala Arg Ile Asn Ser Ser Ser Pro Leu		125
	130	135
Arg Tyr Asn Arg Gln Ile Gly Glu Phe Ile Val Thr Arg Ala Gly Leu		140
145	150	155
Tyr Tyr Leu Tyr Cys Gln Val His Phe Asp Glu Gly Lys Ala Val Tyr		160
	165	170
Leu Lys Leu Asp Leu Leu Val Asp Gly Val Leu Ala Leu Arg Cys Leu		175
	180	185
Glu Glu Phe Ser Ala Thr Ala Ala Ser Ser Leu Gly Pro Gln Leu Arg		190
	195	200
Leu Cys Gln Val Ser Gly Leu Leu Ala Leu Arg Pro Gly Ser Ser Leu		205
	210	215
Arg Ile Arg Thr Leu Pro Trp Ala His Leu Lys Ala Ala Pro Phe Leu		220
225	230	235
Thr Tyr Phe Gly Leu Phe Gln Val His		240
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 <211> 2444
 <212> DNA
 <213> homo sapiens

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33178SEQLIST.TXT

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<210> 79
 <211> 537
 <212> PRT
 <213> homo sapiens

<400> 79

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			20					25					30		
Ile	Pro	Gly	Glu	Arg	Ser	Thr	Asp	Thr	Thr	Lys	Thr	His	Pro	Thr	Ile
		35					40					45			
Lys	Ile	Asn	Gly	Tyr	Thr	Gly	Pro	Gly	Thr	Val	Arg	Ile	Ser	Leu	Val
	50					55					60				
Thr	Lys	Asp	Pro	Pro	His	Arg	Pro	His	Pro	His	Glu	Leu	Val	Gly	Lys
65					70					75					80
Asp	Cys	Arg	Asp	Gly	Phe	Tyr	Glu	Ala	Glu	Leu	Cys	Pro	Asp	Arg	Cys
				85					90					95	
Ile	His	Ser	Phe	Gln	Asn	Leu	Gly	Ile	Gln	Cys	Val	Lys	Lys	Arg	Asp
			100					105					110		
Leu	Glu	Gln	Ala	Ile	Ser	Gln	Arg	Ile	Gln	Thr	Asn	Asn	Asn	Pro	Phe
		115					120					125			
Gln	Val	Pro	Ile	Glu	Glu	Gln	Arg	Gly	Asp	Tyr	Asp	Leu	Asn	Ala	Val
		130				135					140				
Arg	Leu	Cys	Phe	Gln	Val	Thr	Val	Arg	Asp	Pro	Ser	Gly	Arg	Pro	Leu
145					150					155					160
Arg	Leu	Pro	Pro	Val	Leu	Ser	His	Pro	Ile	Phe	Asp	Asn	Arg	Ala	Pro
				165					170					175	
Asn	Thr	Ala	Glu	Leu	Lys	Ile	Cys	Arg	Val	Asn	Arg	Asn	Ser	Gly	Ser
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Cys	Leu	Gly	Gly	Asp	Glu	Ile	Phe	Leu	Leu	Cys	Asp	Lys	Val	Gln	Lys
		195					200					205			
Glu	Asp	Ile	Glu	Val	Tyr	Phe	Thr	Gly	Pro	Gly	Trp	Glu	Ala	Arg	Gly
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Thr	Pro	Pro	Tyr	Ala	Asp	Pro	Ser	Leu	Gln	Ala	Pro	Val	Arg	Val	Ser
				245					250					255	
Met	Gln	Leu	Arg	Arg	Pro	Ser	Asp	Arg	Glu	Leu	Ser	Glu	Pro	Met	Glu
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Phe	Gln	Tyr	Leu	Pro	Asp	Thr	Asp	Asp	Arg	His	Arg	Ile	Glu	Glu	Lys
		275					280					285			
Arg	Lys	Arg	Thr	Tyr	Glu	Thr	Phe	Lys	Ser	Ile	Met	Lys	Lys	Ser	Pro
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Phe	Ser	Gly	Pro	Thr	Asp	Pro	Arg	Pro	Pro	Pro	Arg	Arg	Ile	Ala	Val
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Pro	Ser	Arg	Ser	Ser	Ala	Ser	Val	Pro	Lys	Pro	Ala	Pro	Gln	Pro	Tyr
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Pro	Phe	Thr	Ser	Ser	Leu	Ser	Thr	Ile	Asn	Tyr	Asp	Glu	Phe	Pro	Thr
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Met	Val	Phe	Pro	Ser	Gly	Gln	Ile	Ser	Gln	Ala	Ser	Ala	Leu	Ala	Pro
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Ala	Pro	Pro	Gln	Val	Leu	Pro	Gln	Ala	Pro	Ala	Pro	Ala	Pro	Ala	Pro
	370					375					380				
Ala	Met	Val	Ser	Ala	Leu	Ala	Gln	Ala	Pro	Ala	Pro	Val	Pro	Val	Leu
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Ala	Pro	Gly	Pro	Pro	Gln	Ala	Val	Ala	Pro	Pro	Ala	Pro	Lys	Pro	Thr
				405					410					415	
Gln	Ala	Gly	Glu	Gly	Thr	Leu	Ser	Glu	Ala	Leu	Leu	Gln	Leu	Gln	Phe
			420					425					430		
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33178SEQLIST.TXT

435 440 445
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 465 470 475 480
 Met Glu Tyr Pro Glu Ala Ile Thr Arg Leu Val Thr Ala Gln Arg Pro
 485 490 495
 Pro Asp Pro Ala Pro Ala Pro Leu Gly Ala Pro Gly Leu Pro Asn Gly
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<210> 80
 <211> 2236
 <212> DNA
 <213> homo sapiens

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 <211> 455
 <212> PRT
 <213> homo sapiens

<400> 81
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 35 40 45
 Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys
 50 55 60
 Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln Asp Thr Asp
 65 70 75 80
 Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu
 85 90 95
 Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val
 100 105 110
 Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg
 115 120 125
 Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe
 130 135 140
 Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys Gln Glu
 145 150 155 160
 Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu
 165 170 175
 Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser Leu Glu Cys Thr
 180 185 190
 Lys Leu Cys Leu Pro Gln Ile Glu Asn Val Lys Gly Thr Glu Asp Ser
 195 200 205
 Gly Thr Thr Val Leu Leu Pro Leu Val Ile Phe Phe Gly Leu Cys Leu
 210 215 220
 Leu Ser Leu Leu Phe Ile Gly Leu Met Tyr Arg Tyr Gln Arg Trp Lys
 225 230 235 240
 Ser Lys Leu Tyr Ser Ile Val Cys Gly Lys Ser Thr Pro Glu Lys Glu
 245 250 255
 Gly Glu Leu Glu Gly Thr Thr Thr Lys Pro Leu Ala Pro Asn Pro Ser
 260 265 270
 Phe Ser Pro Thr Pro Gly Phe Thr Pro Thr Leu Gly Phe Ser Pro Val
 275 280 285
 Pro Ser Ser Thr Phe Thr Ser Ser Ser Thr Tyr Thr Pro Gly Asp Cys
 290 295 300
 Pro Asn Phe Ala Ala Pro Arg Arg Glu Val Ala Pro Pro Tyr Gln Gly
 305 310 315 320
 Ala Asp Pro Ile Leu Ala Thr Ala Leu Ala Ser Asp Pro Ile Pro Asn
 325 330 335
 Pro Leu Gln Lys Trp Glu Asp Ser Ala His Lys Pro Gln Ser Leu Asp
 340 345 350
 Thr Asp Asp Pro Ala Thr Leu Tyr Ala Val Val Glu Asn Val Pro Pro
 355 360 365
 Leu Arg Trp Lys Glu Phe Val Arg Arg Leu Gly Leu Ser Asp His Glu
 370 375 380
 Ile Asp Arg Leu Glu Leu Gln Asn Gly Arg Cys Leu Arg Glu Ala Gln
 385 390 395 400
 Tyr Ser Met Leu Ala Thr Trp Arg Arg Arg Thr Pro Arg Arg Glu Ala
 405 410 415
 Thr Leu Glu Leu Leu Gly Arg Val Leu Arg Asp Met Asp Leu Leu Gly
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 Cys Leu Glu Asp Ile Glu Glu Ala Leu Cys Gly Pro Ala Ala Leu Pro
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 Pro Ala Pro Ser Leu Leu Arg
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 <211> 1735
 <212> DNA
 <213> homo sapiens

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 ctacagccccg cggacgcatg tccccttgcc gagttgaggg cagctggcct agagcctgtg 180
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 <211> 495
 <212> PRT
 <213> homo sapiens

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 Glu Pro Glu Leu Ser Pro Ala Asp Ala Cys Pro Leu Ala Glu Leu Arg
 35 40 45
 Ala Ala Gly Leu Glu Pro Val Gly His Tyr Glu Glu Val Glu Leu Thr
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 Glu Thr Ser Val Asn Val Gly Pro Glu Arg Ile Gly Pro His Cys Phe
 65 70 75 80
 Glu Leu Leu Arg Val Leu Gly Lys Gly Tyr Gly Lys Val Phe Gln
 85 90 95
 Val Arg Lys Val Gln Gly Thr Asn Leu Gly Lys Ile Tyr Ala Met Lys
 100 105 110
 Val Leu Arg Lys Ala Lys Ile Val Arg Asn Ala Lys Asp Thr Ala His
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 Thr Arg Ala Glu Arg Asn Ile Leu Glu Ser Val Lys His Pro Phe Ile
 130 135 140
 Val Glu Leu Ala Tyr Ala Phe Gln Thr Gly Gly Lys Leu Tyr Leu Ile
 145 150 155 160
 Leu Glu Cys Leu Ser Gly Gly Glu Leu Phe Thr His Leu Glu Arg Glu
 165 170 175
 Gly Ile Phe Leu Glu Asp Thr Ala Cys Phe Tyr Leu Ala Glu Ile Thr
 180 185 190
 Leu Ala Leu Gly His Leu His Ser Gln Gly Ile Ile Tyr Arg Asp Leu
 195 200 205
 Lys Pro Glu Asn Ile Met Leu Ser Ser Gln Gly His Ile Lys Leu Thr
 210 215 220
 Asp Phe Gly Leu Cys Lys Glu Ser Ile His Glu Gly Ala Val Thr His
 225 230 235 240
 Thr Phe Cys Gly Thr Ile Glu Tyr Met Ala Pro Glu Ile Leu Val Arg
 245 250 255
 Ser Gly His Asn Arg Ala Val Asp Trp Trp Ser Leu Gly Ala Leu Met
 260 265 270
 Tyr Asp Met Leu Thr Gly Ser Pro Pro Phe Thr Ala Glu Asn Arg Lys
 275 280 285

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 Leu Thr Pro Asp Ala Arg Asp Leu Val Lys Lys Phe Leu Lys Arg Asn
 305 310 315 320
 Pro Ser Gln Arg Ile Gly Gly Gly Pro Gly Asp Ala Ala Asp Val Gln
 325 330 335
 Arg His Pro Phe Arg His Met Asn Trp Asp Asp Leu Leu Ala Trp
 340 345 350
 Arg Val Asp Pro Pro Phe Arg Pro Cys Leu Gln Ser Glu Glu Asp Val
 355 360 365
 Ser Gln Phe Asp Thr Arg Phe Thr Arg Gln Thr Pro Val Asp Ser Pro
 370 375 380
 Asp Asp Thr Ala Leu Ser Glu Ser Ala Asn Gln Ala Phe Leu Gly Phe
 385 390 395 400
 Thr Tyr Val Ala Pro Ser Val Leu Asp Ser Ile Lys Glu Gly Phe Ser
 405 410 415
 Phe Gln Pro Lys Leu Arg Ser Pro Arg Arg Leu Asn Ser Ser Pro Arg
 420 425 430
 Val Pro Val Ser Pro Leu Lys Phe Ser Pro Phe Glu Gly Phe Arg Pro
 435 440 445
 Ser Pro Ser Leu Pro Glu Pro Thr Glu Leu Pro Leu Pro Pro Leu Leu
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 465 470 475 480
 Ser Gly Thr Lys Lys Ser Lys Arg Gly Arg Gly Arg Pro Gly Arg
 485 490 495

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 <211> 2169
 <212> DNA
 <213> homo sapiens

<400> 84
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<210> 85
 <211> 483
 <212> PRT
 <213> homo sapiens

<400> 85
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 35 40 45
 Gly Lys Ala Ser Val Gly Ala Met Gly Gly Gly Val Gly Ala Ser Ser
 50 55 60
 Ser Gly Gly Gly Pro Gly Gly Ser Gly Gly Gly Ser Gly Gly Pro
 65 70 75 80
 Gly Ala Gly Thr Ser Phe Pro Pro Pro Gly Val Lys Leu Gly Arg Asp
 85 90 95
 Ser Gly Lys Val Thr Thr Val Val Ala Thr Leu Gly Gln Gly Pro Glu
 100 105 110
 Arg Ser Gln Glu Val Ala Tyr Thr Asp Ile Lys Val Ile Gly Asn Gly
 115 120 125
 Ser Phe Gly Val Val Tyr Gln Ala Arg Leu Ala Glu Thr Arg Glu Leu
 130 135 140
 Val Ala Ile Lys Lys Val Leu Gln Asp Lys Arg Phe Lys Asn Arg Glu
 145 150 155 160
 Leu Gln Ile Met Arg Lys Leu Asp His Cys Asn Ile Val Arg Leu Arg
 165 170 175
 Tyr Phe Phe Tyr Ser Ser Gly Glu Lys Lys Asp Glu Leu Tyr Leu Asn
 180 185 190
 Leu Val Leu Glu Tyr Val Pro Glu Thr Val Tyr Arg Val Ala Arg His
 195 200 205
 Phe Thr Lys Ala Lys Leu Thr Ile Pro Ile Leu Tyr Val Lys Val Tyr
 210 215 220
 Met Tyr Gln Leu Phe Arg Ser Leu Ala Tyr Ile His Ser Gln Gly Val
 225 230 235 240
 Cys His Arg Asp Ile Lys Pro Gln Asn Leu Leu Val Asp Pro Asp Thr
 245 250 255
 Ala Val Leu Lys Leu Cys Asp Phe Gly Ser Ala Lys Gln Leu Val Arg
 260 265 270
 Gly Glu Pro Asn Val Ser Tyr Ile Cys Ser Arg Tyr Tyr Arg Ala Pro
 275 280 285
 Glu Leu Ile Phe Gly Ala Thr Asp Tyr Thr Ser Ser Ile Asp Val Trp
 290 295 300
 Ser Ala Gly Cys Val Leu Ala Glu Leu Leu Leu Gly Gln Pro Ile Phe
 305 310 315 320
 Pro Gly Asp Ser Gly Val Asp Gln Leu Val Glu Ile Ile Lys Val Leu
 325 330 335
 Gly Thr Pro Thr Arg Glu Gln Ile Arg Glu Met Asn Pro Asn Tyr Thr
 340 345 350
 Glu Phe Lys Phe Pro Gln Ile Lys Ala His Pro Trp Thr Lys Val Phe
 355 360 365
 Lys Ser Arg Thr Pro Pro Glu Ala Ile Ala Leu Cys Ser Ser Leu Leu
 370 375 380
 Glu Tyr Thr Pro Ser Ser Arg Leu Ser Pro Leu Glu Ala Cys Ala His
 385 390 395 400
 Ser Phe Phe Asp Glu Leu Arg Cys Leu Gly Thr Gln Leu Pro Asn Asn
 405 410 415
 Arg Pro Leu Pro Pro Leu Phe Asn Phe Ser Ala Gly Glu Leu Ser Ile
 420 425 430
 Gln Pro Ser Leu Asn Ala Ile Leu Ile Pro Pro His Leu Arg Ser Pro
 435 440 445
 Ser Gly Thr Thr Thr Leu Thr Pro Ser Ser Gln Ala Leu Thr Glu Thr
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 <211> 1689
 <212> DNA
 <213> homo sapiens

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 <211> 225
 <212> PRT
 <213> homo sapiens

<400> 87
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 35 40 45
 Tyr Leu Glu His Gln Leu Arg Ser Leu Ala Gly Thr Tyr Leu Asn Tyr
 50 55 60
 Leu Gly Pro Pro Phe Asn Glu Pro Asp Phe Asn Pro Pro Arg Leu Gly
 65 70 75 80
 Ala Glu Thr Leu Pro Arg Ala Thr Val Asp Leu Glu Val Trp Arg Ser
 85 90 95
 Leu Asn Asp Lys Leu Arg Leu Thr Gln Asn Tyr Glu Ala Tyr Ser His
 100 105 110
 Leu Leu Cys Tyr Leu Arg Gly Leu Asn Arg Gln Ala Ala Thr Ala Glu
 115 120 125
 Leu Arg Arg Ser Leu Ala His Phe Cys Thr Ser Leu Gln Gly Leu Leu
 130 135 140
 Gly Ser Ile Ala Gly Val Met Ala Ala Leu Gly Tyr Pro Leu Pro Gln
 145 150 155 160

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 Asp Phe Leu Gln Lys Met Asp Asp Phe Trp Leu Leu Lys Glu Leu Gln
 180 185 190
 Thr Trp Leu Trp Arg Ser Ala Lys Asp Phe Asn Arg Leu Lys Lys Lys
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 Met Gln Pro Pro Ala Ala Ala Val Thr Leu His Leu Gly Ala His Gly
 210 215 220
 Phe
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 <211> 3073
 <212> DNA
 <213> homo sapiens

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<213> homo sapiens

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Leu	Asp	His	Arg	Arg	Val	His	Thr	Gly	Glu	Arg	Pro	Phe	Gly	Cys	Gly
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 35 40 45
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 50 55 60
 Asn Glu Ile Ala Val Leu His Lys Ile Lys His Pro Asn Ile Val Ala
 65 70 75 80
 Leu Asp Asp Ile Tyr Glu Ser Gly Gly His Leu Tyr Leu Ile Met Gln
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 115 120 125
 Val Lys Tyr Leu His Asp Leu Gly Ile Val His Arg Asp Leu Lys Pro
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 145 150 155 160
 Ser Asp Phe Gly Leu Ser Lys Met Glu Asp Pro Gly Ser Val Leu Ser
 165 170 175
 Thr Ala Cys Gly Thr Pro Gly Tyr Val Ala Pro Glu Val Leu Ala Gln
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 Lys Pro Tyr Ser Lys Ala Val Asp Cys Trp Ser Ile Gly Val Ile Ala
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 Glu Lys Glu Thr Asp Asn Thr Lys Pro Asn Arg Met Pro Val Ala Pro
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 Tyr Trp Thr Ser Pro Glu Lys Met Glu Lys Lys Leu His Ala Val Pro
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 Asn Glu Tyr Gly Ser Ile Asn His Thr Tyr Gln Leu Asp Val Val Glu
 145 150 155 160
 Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Lys
 165 170 175
 Thr Val Ala Leu Gly Ser Asn Val Glu Phe Met Cys Lys Val Tyr Ser
 180 185 190
 Asp Pro Gln Pro His Ile Gln Trp Leu Lys His Ile Glu Val Asn Gly
 195 200 205
 Ser Lys Ile Gly Pro Asp Asn Leu Pro Tyr Val Gln Ile Leu Lys Val
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 Ile Met Ala Pro Val Phe Val Gly Gln Ser Thr Gly Lys Glu Thr Thr
 225 230 235 240
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 245 250 255
 Gly Ser Phe Leu Thr Leu Gln Ala His Thr Leu His Leu Ser Arg Asp
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 Ser Lys Met Cys Asp Ser His Tyr Leu Glu Ser Arg Ser Ile Asn Glu
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 Lys Asp Tyr His Ser Arg Arg Tyr Ile Asp Glu Tyr Arg Asn Asp Tyr
 65 70 75 80
 Thr Gln Gly Cys Glu Pro Gly His Arg Gln Arg Asp His Glu Ser Arg
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 Tyr Gln Asn His Ser Ser Lys Ser Ser Gly Arg Ser Gly Arg Ser Ser
 100 105 110
 Tyr Lys Ser Lys His Arg Ile His Ser Thr Ser His Arg Arg Ser
 115 120 125
 His Gly Lys Ser His Arg Arg Lys Arg Thr Arg Ser Val Glu Asp Asp
 130 135 140
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 Tyr Glu Ile Val Asp Thr Leu Gly Glu Gly Ala Phe Gly Lys Val Val
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 Val Lys Asn Val Asp Arg Tyr Cys Glu Ala Ala Arg Ser Glu Ile Gln
 195 200 205
 Val Leu Glu His Leu Asn Thr Thr Asp Pro Asn Ser Thr Phe Arg Cys
 210 215 220
 Val Gln Met Leu Glu Trp Phe Glu His His Gly His Ile Cys Ile Val
 225 230 235 240
 Phe Glu Leu Leu Gly Leu Ser Thr Tyr Asp Phe Ile Lys Glu Asn Gly
 245 250 255
 Phe Leu Pro Phe Arg Leu Asp His Ile Arg Lys Met Ala Tyr Gln Ile
 260 265 270
 Cys Lys Ser Val Asn Phe Leu His Ser Asn Lys Leu Thr His Thr Asp
 275 280 285
 Leu Lys Pro Glu Asn Ile Leu Phe Val Gln Ser Asp Tyr Thr Glu Ala
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 Tyr Asn Pro Lys Ile Lys Arg Asp Glu Arg Thr Leu Ile Asn Pro Asp
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 Ile Lys Val Val Asp Phe Gly Ser Ala Thr Tyr Asp Asp Glu His His

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 370 375 380
 Lys Glu His Leu Ala Met Met Glu Arg Ile Leu Gly Pro Leu Pro Lys
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 His Met Ile Gln Lys Thr Arg Lys Arg Lys Tyr Phe His His Asp Arg
 405 410 415
 Leu Asp Trp Asp Glu His Ser Ser Ala Gly Arg Tyr Val Ser Arg Ala
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 Cys Lys Pro Leu Lys Glu Phe Met Leu Ser Gln Asp Val Glu His Glu
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<400> 96

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<210> 97
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 <212> PRT
 <213> homo sapiens

<400> 97

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 35      40      45
Ala Gly Gly Ser Gly Ser Tyr Trp Pro Ala Arg His Ser Gly Ala Arg
 50      55      60
Val Ile Leu Leu Val Leu Tyr Arg Glu His Leu Asn Pro Asn Gly His
 65      70      75      80
His Phe Leu Thr Lys Glu Glu Leu Leu Gln Arg Cys Ala Gln Lys Ser
 85      90      95
Pro Arg Val Ala Pro Gly Ser Ala Pro Trp Pro Ala Leu Arg Ser
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 130      135      140
Glu Gly Leu Ser Leu Leu Asn Val Gly Ile Gly Pro Lys Glu Pro Pro
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Glu Ala Gly Val Gln Gln Gln Pro Leu Glu Leu Arg Pro Gly Glu Tyr
 180      185      190
Arg Val Leu Leu Cys Val Asp Ile Gly Glu Thr Arg Gly Gly Gly His
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Arg Pro Glu Leu Leu Arg Glu Leu Gln Arg Leu His Val Thr His Thr
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Val Arg Lys Leu His Val Gly Asp Phe Val Trp Val Ala Gln Glu Thr
 225      230      235      240
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 245      250      255
Val Glu Arg Lys Arg Leu Asp Asp Leu Cys Ser Ser Ile Ile Asp Gly
 260      265      270
Arg Phe Arg Glu Gln Lys Phe Arg Leu Lys Arg Cys Gly Leu Glu Arg
 275      280      285
Arg Val Tyr Leu Val Glu Glu His Gly Ser Val His Asn Leu Ser Leu
 290      295      300
Pro Glu Ser Thr Leu Leu Gln Ala Val Thr Asn Thr Gln Val Ile Asp
 305      310      315      320
Gly Phe Phe Val Lys Arg Thr Ala Asp Ile Lys Glu Ser Ala Ala Tyr
 325      330      335
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 340      345      350
Leu Arg Ser Arg Pro Trp Gly Thr Pro Gly Asn Pro Glu Ser Gly Ala
 355      360      365
Met Thr Ser Pro Asn Pro Leu Cys Ser Leu Leu Thr Phe Ser Asp Phe
 370      375      380
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 385      390      395      400
Ala Arg Gln Leu Met Gln Val Arg Gly Val Ser Gly Glu Lys Ala Ala
 405      410      415
Ala Leu Val Asp Arg Tyr Ser Thr Pro Ala Ser Leu Leu Ala Ala Tyr
 420      425      430
Asp Ala Cys Ala Thr Pro Lys Glu Gln Glu Thr Leu Leu Ser Thr Ile
 435      440      445
Lys Cys Gly Arg Leu Gln Arg Asn Leu Gly Pro Ala Leu Ser Arg Thr
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 <212> DNA
 <213> homo sapiens

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<400> 99

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Gly Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln
35      40      45
Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu
50      55      60
Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu
65      70      75      80
Met Arg Cys Gly Gly Cys Ser Asn Asp Glu Gly Leu Glu Cys Val Pro
85      90      95
Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His
100      105      110
Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys
115      120      125
Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Asn Pro Cys Gly
130      135      140
Pro Cys Ser Glu Arg Arg Lys His Leu Phe Val Gln Asp Pro Gln Thr
145      150      155      160
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165      170      175
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 <213> homo sapiens

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<210> 101
 <211> 207
 <212> PRT
 <213> homo sapiens

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<400> 101
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20      25      30

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33178SEQLIST.TXT

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 50 55 60
 His Ile Gln Val Leu Gly Arg Arg Ile Ser Ala Arg Gly Glu Asp Gly
 65 70 75 80
 Asp Lys Tyr Ala Gln Leu Leu Val Glu Thr Asp Thr Phe Gly Ser Gln
 85 90 95
 Val Arg Ile Lys Gly Lys Glu Thr Glu Phe Tyr Leu Cys Met Asn Arg
 100 105 110
 Lys Gly Lys Leu Val Gly Lys Pro Asp Gly Thr Ser Lys Glu Cys Val
 115 120 125
 Phe Ile Glu Lys Val Leu Glu Asn Asn Tyr Thr Ala Leu Met Ser Ala
 130 135 140
 Lys Tyr Ser Gly Trp Tyr Val Gly Phe Thr Lys Lys Gly Arg Pro Arg
 145 150 155 160
 Lys Gly Pro Lys Thr Arg Glu Asn Gln Gln Asp Val His Phe Met Lys
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<210> 103

<211> 777

<212> PRT

<213> homo sapiens

<400> 103

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20      25      30
Asp Leu Ile Arg Gln Gly Asp Thr Gln Ala Lys Tyr Ala Val Asn Ser
35      40      45
Ile Lys Lys Lys Val Asn Asp Lys Asn Pro His Val Ala Leu Tyr Ala
50      55      60
Leu Glu Val Met Glu Ser Val Val Lys Asn Cys Gly Gln Thr Val His
65      70      75      80
Asp Glu Val Ala Asn Lys Gln Thr Met Glu Glu Leu Lys Asp Leu Leu
85      90      95
Lys Arg Gln Val Glu Val Asn Val Arg Asn Lys Ile Leu Tyr Leu Ile
100      105      110
Gln Ala Trp Ala His Ala Phe Arg Asn Glu Pro Lys Tyr Lys Val Val
115      120      125
Gln Asp Thr Tyr Gln Ile Met Lys Val Glu Gly His Val Phe Pro Glu
130      135      140
Phe Lys Glu Ser Asp Ala Met Phe Ala Ala Glu Arg Ala Pro Asp Trp
145      150      155      160
Val Asp Ala Glu Glu Cys His Arg Cys Arg Val Gln Phe Gly Val Met
165      170      175
Thr Arg Lys His His Cys Arg Ala Cys Gly Gln Ile Phe Cys Gly Lys
180      185      190
Cys Ser Ser Lys Tyr Ser Thr Ile Pro Lys Phe Gly Ile Glu Lys Glu
195      200      205
Val Arg Val Cys Glu Pro Cys Tyr Glu Gln Leu Asn Arg Lys Ala Glu
210      215      220
Gly Lys Ala Thr Ser Thr Thr Glu Leu Pro Pro Glu Tyr Leu Thr Ser
225      230      235      240
Pro Leu Ser Gln Gln Ser Gln Leu Pro Pro Lys Arg Asp Glu Thr Ala
245      250      255
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260      265      270
Glu Ala Glu Glu Lys Glu Arg Leu Arg Gln Lys Ser Thr Tyr Thr Ser
275      280      285
Tyr Pro Lys Ala Glu Pro Met Pro Ser Ala Ser Ser Ala Pro Pro Ala
290      295      300
Ser Ser Leu Tyr Ser Ser Pro Val Asn Ser Ser Ala Pro Leu Ala Glu
305      310      315      320
Asp Ile Asp Pro Glu Leu Ala Arg Tyr Leu Asn Arg Asn Tyr Trp Glu
325      330      335
Lys Lys Gln Glu Ala Arg Lys Ser Pro Thr Pro Ser Ala Pro Val
340      345      350
Pro Leu Thr Glu Pro Ala Ala Gln Pro Gly Glu Gly His Ala Ala Pro
355      360      365
Thr Asn Val Val Glu Asn Pro Leu Pro Glu Thr Asp Ser Gln Pro Ile
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Pro Pro Ser Gly Gly Pro Phe Ser Glu Pro Gln Phe His Asn Gly Glu
385      390      395      400

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33178SEQLIST.TXT

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 Met His Pro Gln Leu Leu Glu Leu Leu Asn Gln Leu Asp Glu Arg Arg
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 Leu Tyr Tyr Glu Gly Leu Gln Asp Lys Leu Ala Gln Ile Arg Asp Ala
 465 470 475 480
 Arg Gly Ala Leu Ser Ala Leu Arg Glu Glu His Arg Glu Lys Leu Arg
 485 490 495
 Arg Ala Ala Glu Glu Ala Glu Arg Gln Arg Gln Ile Gln Leu Ala Gln
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 Lys Leu Glu Ile Met Arg Gln Lys Lys Gln Glu Tyr Leu Glu Val Gln
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 Arg Gln Leu Ala Ile Gln Arg Leu Gln Glu Gln Glu Lys Glu Arg Gln
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<210> 104
 <211> 540
 <212> PRT
 <213> homo sapiens

<400> 104
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 Leu His Ile His Thr Pro Leu Leu Asp Ser Glu Arg Lys Asp Val Leu
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 Arg Glu Ala Glu Ile Leu His Lys Ala Arg Phe Ser Tyr Ile Leu Pro
 65 70 75 80
 Ile Leu Gly Ile Cys Asn Glu Pro Glu Phe Leu Gly Ile Val Thr Glu
 85 90 95

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 130 135 140
 His Asp Leu Lys Thr Gln Asn Ile Leu Leu Asp Asn Glu Phe His Val
 145 150 155 160
 Lys Ile Ala Asp Phe Gly Leu Ser Lys Trp Arg Met Met Ser Leu Ser
 165 170 175
 Gln Ser Arg Ser Lys Ser Ala Pro Glu Gly Gly Thr Ile Ile Tyr
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 Lys His Asp Ile Tyr Ser Tyr Ala Val Ile Thr Trp Glu Val Leu Ser
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 Ser Val Ser Gln Gly His Arg Pro Val Ile Asn Glu Glu Ser Leu Pro
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 Tyr Asp Ile Pro His Arg Ala Arg Met Ile Ser Leu Ile Glu Ser Gly
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 <212> DNA
 <213> homo sapiens

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<210> 106
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<212> PRT
<213> homo sapiens

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Cys	Thr	Ser	Ile	Val	Tyr	Ala	Thr	Glu	Lys	Lys	Gln	Thr	Lys	Val	Glu			
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Ser	Arg	Ser	Gln	Ala	Ser	Pro	Ser	Glu	Asp	Glu	Glu	Thr	Phe	Glu	Leu			
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Arg	Asp	Arg	Val	Arg	Arg	Ile	His	Val	Lys	Arg	Tyr	Ser	Thr	Tyr	Asp			
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 <212> DNA
 <213> homo sapiens

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<210> 108
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 <212> PRT
 <213> homo sapiens

<400> 108

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Val	Cys	Arg	Ile	Gly	Asp	Trp	Leu	Gln	Glu	Arg	Tyr	Glu	Ile	Val	Gly
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Lys	Tyr	Arg	Glu	Ala	Ala	Arg	Leu	Glu	Ile	Asn	Val	Leu	Lys	Lys	Ile
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 <212> DNA
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<400> 109

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 <212> PRT
 <213> homo sapiens

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	50					55					60				
Ser	Val	Gly	Glu	Val	Tyr	Ile	Lys	Ser	Thr	Glu	Thr	Gly	Gln	Tyr	Leu
	65				70					75					80
Ala	Met	Asp	Thr	Asp	Gly	Leu	Leu	Tyr	Gly	Ser	Gln	Thr	Pro	Asn	Glu
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Glu	Cys	Leu	Phe	Leu	Glu	Arg	Leu	Glu	Glu	Asn	His	Tyr	Asn	Thr	Tyr
			100					105					110		
Ile	Ser	Lys	Lys	His	Ala	Glu	Lys	Asn	Trp	Phe	Val	Gly	Leu	Lys	Lys
		115					120					125			
Asn	Gly	Ser	Cys	Lys	Arg	Gly	Pro	Arg	Thr	His	Tyr	Gly	Gln	Lys	Ala
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<211> 1029

<212> DNA

<213> homo sapiens

<400> 117

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<211> 168

<212> PRT

<213> homo sapiens

<400> 118

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			20					25					30		
Gly	Lys	Lys	Glu	Lys	Pro	Glu	Lys	Lys	Val	Lys	Lys	Ser	Asp	Cys	Gly
	35					40						45			
Glu	Trp	Gln	Trp	Ser	Val	Cys	Val	Pro	Thr	Ser	Gly	Asp	Cys	Gly	Leu
	50					55					60				
Gly	Thr	Arg	Glu	Gly	Thr	Arg	Thr	Gly	Ala	Glu	Cys	Lys	Gln	Thr	Met
	65				70					75					80
Lys	Thr	Gln	Arg	Cys	Lys	Ile	Pro	Cys	Asn	Trp	Lys	Lys	Gln	Phe	Gly
				85					90					95	
Ala	Glu	Cys	Lys	Tyr	Gln	Phe	Gln	Ala	Trp	Gly	Glu	Cys	Asp	Leu	Asn
			100					105					110		
Thr	Ala	Leu	Lys	Thr	Arg	Thr	Gly	Ser	Leu	Lys	Arg	Ala	Leu	His	Asn
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Ala	Glu	Cys	Gln	Lys	Thr	Val	Thr	Ile	Ser	Lys	Pro	Cys	Gly	Lys	Leu
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33178SEQLIST.TXT

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 Lys Lys Gln Glu Lys Met Leu Asp
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 <212> DNA
 <213> homo sapiens

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 gctaattatg ttcacagcaa aggactgaag ctagggtatt atgcagatgt tggaaataaa 480
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 <211> 429
 <212> PRT
 <213> homo sapiens

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 Asp Asn Gly Leu Ala Arg Thr Pro Thr Met Gly Trp Leu His Trp Glu
 35 40 45
 Arg Phe Met Cys Asn Leu Asp Cys Gln Glu Glu Pro Asp Ser Cys Ile
 50 55 60
 Ser Glu Lys Leu Phe Met Glu Met Ala Glu Leu Met Val Ser Glu Gly
 65 70 75 80
 Trp Lys Asp Ala Gly Tyr Glu Tyr Leu Cys Ile Asp Asp Cys Trp Met
 85 90 95
 Ala Pro Gln Arg Asp Ser Glu Gly Arg Leu Gln Ala Asp Pro Gln Arg
 100 105 110
 Phe Pro His Gly Ile Arg Gln Leu Ala Asn Tyr Val His Ser Lys Gly
 115 120 125
 Leu Lys Leu Gly Ile Tyr Ala Asp Val Gly Asn Lys Thr Cys Ala Gly
 130 135 140
 Phe Pro Gly Ser Phe Gly Tyr Tyr Asp Ile Asp Ala Gln Thr Phe Ala
 145 150 155 160
 Asp Trp Gly Val Asp Leu Leu Lys Phe Asp Gly Cys Tyr Cys Asp Ser
 165 170 175
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 195 200 205

33178SEQLIST.TXT

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 245 250 255
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 260 265 270
 Phe Gly Leu Ser Trp Asn Gln Gln Val Thr Gln Met Ala Leu Trp Ala
 275 280 285
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 290 295 300
 Pro Gln Ala Lys Ala Leu Leu Gln Asp Lys Asp Val Ile Ala Ile Asn
 305 310 315 320
 Gln Asp Pro Leu Gly Lys Gln Gly Tyr Gln Leu Arg Gln Gly Asp Asn
 325 330 335
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 340 345 350
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 355 360 365
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<210> 122
 <211> 91
 <212> PRT
 <213> homo sapiens

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 35 40 45
 Ile Thr Asp Lys Leu Gly Leu His Ser Leu Arg Tyr Arg Asn Trp His
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 <212> DNA
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<210> 124

<211> 718

<212> PRT

<213> homo sapiens

<400> 124

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 50      55      60
Asp Val Pro Val Val Arg Leu Pro Ala Asp Ser Pro Ile Pro Glu Arg
 65      70      75      80
Gly Asp Leu Ser Cys Arg Met His Thr Cys Phe Asp Val Tyr Arg Cys
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Gly Phe Asn Pro Lys Asn Lys Ile Lys Val Tyr Ile Tyr Ala Leu Lys
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Lys Tyr Val Asp Asp Phe Gly Val Ser Val Ser Asn Thr Ile Ser Arg
115      120      125
Glu Tyr Asn Glu Leu Leu Met Ala Ile Ser Asp Ser Asp Tyr Tyr Thr
130      135      140
Asp Asp Ile Asn Arg Ala Cys Leu Phe Val Pro Ser Ile Asp Val Leu
145      150      155      160
Asn Gln Asn Thr Leu Arg Ile Lys Glu Thr Ala Gln Ala Met Ala Gln
165      170      175
Leu Ser Arg Trp Asp Arg Gly Thr Asn His Leu Leu Phe Asn Met Leu
180      185      190
Pro Gly Gly Pro Pro Asp Tyr Asn Thr Ala Leu Asp Val Pro Arg Asp
195      200      205
Arg Ala Leu Leu Ala Gly Gly Phe Ser Thr Trp Thr Tyr Arg Gln
210      215      220
Gly Tyr Asp Val Ser Ile Pro Val Tyr Ser Pro Leu Ser Ala Glu Val
225      230      235      240
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245      250      255
Ser Gln Val Gly Leu His Pro Glu Tyr Arg Glu Asp Leu Glu Ala Leu
260      265      270
Gln Val Lys His Gly Glu Ser Val Leu Val Leu Asp Lys Cys Thr Asn
275      280      285
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Val Phe Asp Tyr Pro Gln Val Leu Gln Glu Ala Thr Phe Cys Val Val
305      310      315      320
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325      330      335
Ala Gly Cys Val Pro Val Val Ile Ala Asp Ser Tyr Ile Leu Pro Phe
340      345      350
Ser Glu Val Leu Asp Trp Lys Arg Ala Ser Val Val Val Pro Glu Glu
355      360      365
Lys Met Ser Asp Val Tyr Ser Ile Leu Gln Ser Ile Pro Gln Arg Gln
370      375      380
Ile Glu Glu Met Gln Arg Gln Ala Arg Trp Phe Trp Glu Ala Tyr Phe
385      390      395      400
Gln Ser Ile Lys Ala Ile Ala Leu Ala Thr Leu Gln Ile Ile Asn Asp
405      410      415
Arg Ile Tyr Pro Tyr Ala Ala Ile Ser Tyr Glu Glu Trp Asn Asp Pro
420      425      430
Pro Ala Val Lys Trp Gly Ser Val Ser Asn Pro Leu Phe Leu Pro Leu
435      440      445
Ile Pro Pro Gln Ser Gln Gly Phe Thr Ala Ile Val Leu Thr Tyr Asp
450      455      460
Arg Val Glu Ser Leu Phe Arg Val Ile Thr Glu Val Ser Lys Val Pro
465      470      475      480
Ser Leu Ser Lys Leu Leu Val Val Trp Asn Asn Gln Asn Lys Asn Pro
485      490      495
Pro Glu Asp Ser Leu Trp Pro Lys Ile Arg Val Pro Leu Lys Val Val
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565	Met	Asn	Lys	Trp	570	Lys	Tyr	Glu	575	Ser	Glu	Trp	Thr	580	Asn	Glu	Val	Ser
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Cys Arg Leu Gln Lys Cys Phe Glu Val Gly Met Ser Lys Glu Ala Val
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Arg	Glu	Val	Val	Lys	Arg	Gln	Asp	Val	Leu	Tyr	Glu	Leu	Met	Gln	Thr
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 755 760 765
 Ala Tyr Gln His Asp Leu Glu Arg Leu Arg Glu Ala Gln Arg Ala Val
 770 775 780
 Glu Arg Glu Arg Glu Arg Leu Glu Leu Leu Arg Arg Leu Lys Lys Gln
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 Pro Pro Ser His Pro Pro Ser Phe Asn Gly Glu Gly Leu Glu Gly Pro
 820 825 830
 Arg Val Ser Met Leu Pro Ser Gly Val Gly Pro Glu Tyr Ala Glu Arg
 835 840 845
 Pro Glu Val Ala Arg Arg Asp Ser Ala Pro Thr Glu Ser Arg Leu Ala
 850 855 860
 Lys Ser Asp Val Pro Ile Gln Leu Leu Ser Ala Thr Asn Gln Phe Gln
 865 870 875 880
 Arg Gln Ala Ala Val Gln Gln Gln Ile Pro Thr Lys Leu Ala Ala Ser
 885 890 895
 Thr Lys Gly Gly Lys Asp Lys Gly Gly Lys Ser Arg Gly Ser Gln Arg
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 Trp Glu Ser Ser Ala Ser Phe Asp Leu Lys Gln Gln Leu Leu Leu Asn
 915 920 925
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 930 935 940
 Ser Pro Ile Leu Pro Gly Arg His Ser Pro Ala Pro Pro Pro Asp Pro
 945 950 955 960
 Gly Phe Pro Ala Pro Ser Pro Pro Pro Ala Asp Ser Pro Ser Glu Gly
 965 970 975
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 <212> DNA
 <213> homo sapiens

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<210> 134
<211> 395
<212> PRT
<213> homo sapiens

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<400> 134
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35     40     45
Ala Tyr Gln Trp Cys Arg Glu Tyr Leu Gly Gly Ala Trp Arg Arg Val
50     55     60
Gln Pro Glu Glu Leu Arg Val Tyr Pro Val Ser Gly Gly Leu Ser Asn
65     70     75     80
Leu Leu Phe Arg Cys Ser Leu Pro Asp His Leu Pro Ser Val Gly Glu
85     90     95
Glu Pro Arg Glu Val Leu Leu Arg Leu Tyr Gly Ala Ile Leu Gln Gly
100    105    110
Val Asp Ser Leu Val Leu Glu Ser Val Met Phe Ala Ile Leu Ala Glu
115    120    125
Arg Ser Leu Gly Pro Gln Leu Tyr Gly Val Phe Pro Glu Gly Arg Leu
130    135    140
Glu Gln Tyr Ile Pro Ser Arg Pro Leu Lys Thr Gln Glu Leu Arg Glu
145    150    155    160
Pro Val Leu Ser Ala Ala Ile Ala Thr Lys Met Ala Gln Phe His Gly
165    170    175
Met Glu Met Pro Phe Thr Lys Glu Pro His Trp Leu Phe Gly Thr Met
180    185    190
Glu Arg Tyr Leu Lys Gln Ile Gln Asp Leu Pro Pro Thr Gly Leu Pro
195    200    205
Glu Met Asn Leu Leu Glu Met Tyr Ser Leu Lys Asp Glu Met Gly Asn
210    215    220
Leu Arg Lys Leu Leu Glu Ser Thr Pro Ser Pro Val Val Phe Cys His
225    230    235    240
Asn Asp Ile Gln Glu Gly Asn Ile Leu Leu Leu Ser Glu Pro Glu Asn
245    250    255
Ala Asp Ser Leu Met Leu Val Asp Phe Glu Tyr Ser Ser Tyr Asn Tyr
260    265    270
Arg Gly Phe Asp Ile Gly Asn His Phe Cys Glu Trp Val Tyr Asp Tyr
275    280    285

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 Lys Lys Gly Glu Thr Leu Ser Gln Glu Glu Gln Arg Lys Leu Glu Glu
 325 330 335
 Asp Leu Leu Val Glu Val Ser Arg Tyr Ala Leu Ala Ser His Phe Phe
 340 345 350
 Trp Gly Leu Trp Ser Ile Leu Gln Ala Ser Met Ser Thr Ile Glu Phe
 355 360 365
 Gly Tyr Leu Asp Tyr Ala Gln Ser Arg Phe Gln Phe Tyr Phe Gln Gln
 370 375 380
 Lys Gly Gln Leu Thr Ser Val His Ser Ser Ser
 385 390 395

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 <211> 1362
 <212> DNA
 <213> homo sapiens

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<210> 136
 <211> 339
 <212> PRT
 <213> homo sapiens

<400> 136
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 Phe Asp Ala Glu Arg Asp Ala Leu Asn Ile Glu Thr Ala Ile Lys Thr
 35 40 45
 Lys Gly Val Asp Glu Val Thr Ile Val Asn Ile Leu Thr Asn Arg Ser
 50 55 60
 Asn Ala Gln Arg Gln Asp Ile Ala Phe Ala Tyr Gln Arg Arg Thr Lys
 65 70 75 80
 Lys Glu Leu Ala Ser Ala Leu Lys Ser Ala Leu Ser Gly His Leu Glu
 85 90 95
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 100 105 110
 Glu Leu Lys Ala Ser Met Lys Gly Leu Gly Thr Asp Glu Asp Ser Leu
 115 120 125

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 165 170 175
 Gly Arg Arg Ala Glu Asp Gly Ser Val Ile Asp Tyr Glu Leu Ile Asp
 180 185 190
 Gln Asp Ala Arg Asp Leu Tyr Asp Ala Gly Val Lys Arg Lys Gly Thr
 195 200 205
 Asp Val Pro Lys Trp Ile Ser Ile Met Thr Glu Arg Ser Val Pro His
 210 215 220
 Leu Gln Lys Val Phe Asp Arg Tyr Lys Ser Tyr Ser Pro Tyr Asp Met
 225 230 235 240
 Leu Glu Ser Ile Arg Lys Glu Val Lys Gly Asp Leu Glu Asn Ala Phe
 245 250 255
 Leu Asn Leu Val Gln Cys Ile Gln Asn Lys Pro Leu Tyr Phe Ala Asp
 260 265 270
 Arg Leu Tyr Asp Ser Met Lys Gly Lys Gly Thr Arg Asp Lys Val Leu
 275 280 285
 Ile Arg Ile Met Val Ser Arg Ser Glu Val Asp Met Leu Lys Ile Arg
 290 295 300
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 <211> 1982
 <212> DNA
 <213> homo sapiens

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<212> PRT
<213> homo sapiens

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35 40 45
Pro Glu Lys Cys Gln Leu Leu Phe Arg Val Ser Asp His Arg Arg Cys
50 55 60
Ser Gln Gly Glu Gly Ser Gln Val Gly Ser Leu Leu Ser Leu Thr Leu
65 70 75 80
Arg Glu Glu Phe Thr Val Leu Gly Arg Gln Val Glu Asp Ala Gly Arg
85 90 95
Val Leu Glu Gly Ile Ser Lys Ser Ile Ser Tyr Asp Leu Asp Gly Glu
100 105 110
Glu Ser Tyr Gly Lys Tyr Leu Arg Glu Ser His Gln Ile Gly Asp
115 120 125
Ala Tyr Ser Asn Ser Asp Lys Ser Leu Thr Glu Leu Glu Ser Lys Phe
130 135 140
Lys Gln Gly Gln Glu Gln Asp Ser Arg Gln Glu Ser Arg Leu Asn Glu
145 150 155 160
Asp Phe Leu Gly Met Leu Val His Thr Arg Ser Leu Leu Lys Glu Thr
165 170 175
Leu Asp Ile Ser Val Gly Leu Arg Asp Lys Tyr Glu Leu Leu Ala Leu
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Thr Ile Arg Ser His Gly Thr Arg Leu Gly Arg Leu Lys Asn Asp Tyr
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<211> 2574
<212> DNA
<213> homo sapiens

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<210> 140

<211> 412

<212> PRT

<213> homo sapiens

<400> 140

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35 40 45
Ser Lys Leu Arg Leu Thr Ser Pro Pro Glu Pro Thr Val Met Thr His
50 55 60
Val Pro Tyr Gln Val Leu Ala Leu Tyr Asn Ser Thr Arg Glu Leu Leu
65 70 75 80
Glu Glu Met His Gly Glu Arg Glu Glu Gly Cys Thr Gln Glu Asn Thr
85 90 95
Glu Ser Glu Tyr Tyr Ala Lys Glu Ile His Lys Phe Asp Met Ile Gln
100 105 110
Gly Leu Ala Glu His Asn Glu Leu Ala Val Cys Pro Lys Gly Ile Thr
115 120 125
Ser Lys Val Phe Arg Phe Asn Val Ser Ser Val Glu Lys Asn Arg Thr
130 135 140
Asn Leu Phe Arg Ala Glu Phe Arg Val Leu Arg Val Pro Asn Pro Ser
145 150 155 160
Ser Lys Arg Asn Glu Gln Arg Ile Glu Leu Phe Gln Ile Leu Arg Pro
165 170 175
Asp Glu His Ile Ala Lys Gln Arg Tyr Ile Gly Gly Lys Asn Leu Pro
180 185 190
Thr Arg Gly Thr Ala Glu Trp Leu Ser Phe Asp Val Thr Asp Thr Val
195 200 205
Arg Glu Trp Leu Leu Arg Arg Glu Ser Asn Leu Gly Leu Glu Ile Ser
210 215 220
Ile His Cys Pro Cys His Thr Phe Gln Pro Asn Gly Asp Ile Leu Glu
225 230 235 240
Asn Ile His Glu Val Met Glu Ile Lys Phe Lys Gly Val Asp Asn Glu
245 250 255
Asp Asp His Gly Arg Gly Asp Leu Gly Arg Leu Lys Lys Gln Lys Asp
260 265 270
His His Asn Pro His Leu Ile Leu Met Met Ile Pro Pro His Arg Leu
275 280 285
Asp Asn Pro Gly Gln Gly Gly Gln Arg Lys Lys Arg Ala Leu Asp Thr
290 295 300
Asn Tyr Cys Phe Arg Asn Leu Glu Glu Asn Cys Cys Val Arg Pro Leu
305 310 315 320
Tyr Ile Asp Phe Arg Gln Asp Leu Gly Trp Lys Trp Val His Glu Pro

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Asn	Pro	355	Glu	Ala	Ser	Ala	Ser	Pro	360	Cys	Cys	Val	Pro	Gln	Asp	Leu	Glu	
Pro	Leu	370	Thr	Ile	Leu	Tyr	Tyr	Val	375	Gly	Arg	Thr	Pro	Lys	Val	Glu	Gln	
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 <212> DNA
 <213> homo sapiens

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 ccaaccggag ttgagcgct gccctgaag gccccacctt acacttggcg ggggccggag 180
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33178SEQLIST.TXT

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<210> 142
 <211> 847
 <212> PRT
 <213> homo sapiens

<400> 142

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Asn Gly Ser Gly Ser Gly Gly Gly Gly Gly Gly Gly Gly Arg Pro
20 25 30
Glu Gly Ser Pro Lys Ala Ala Gly Tyr Ala Asn Pro Val Trp Thr Ala
35 40 45
Leu Phe Asp Tyr Glu Pro Ser Gly Gln Asp Glu Leu Ala Leu Arg Lys
50 55 60
Gly Asp Arg Val Glu Val Leu Ser Arg Asp Ala Ile Ser Gly Asp
65 70 75 80
Glu Gly Trp Trp Ala Gly Gln Val Gly Gly Gln Val Gly Ile Phe Pro
85 90 95
Ser Asn Tyr Val Ser Arg Gly Gly Gly Pro Pro Pro Cys Glu Val Ala
100 105 110
Ser Phe Gln Glu Leu Arg Leu Glu Glu Val Ile Gly Ile Gly Gly Phe
115 120 125
Gly Lys Val Tyr Arg Gly Ser Trp Arg Gly Glu Leu Val Ala Val Lys
130 135 140
Ala Ala Arg Gln Asp Pro Asp Glu Asp Ile Ser Val Thr Ala Glu Ser
145 150 155 160
Val Arg Gln Glu Ala Arg Leu Phe Ala Met Leu Ala His Pro Asn Ile
165 170 175
Ile Ala Leu Lys Ala Val Cys Leu Glu Pro Asn Leu Cys Leu Val
180 185 190
Met Glu Tyr Ala Ala Gly Gly Pro Leu Ser Arg Ala Leu Ala Gly Arg
195 200 205
Arg Val Pro Pro His Val Leu Val Asn Trp Ala Val Gln Ile Ala Arg
210 215 220
Gly Met His Tyr Leu His Cys Glu Ala Leu Val Pro Val Ile His Arg
225 230 235 240
Asp Leu Lys Ser Asn Ile Leu Leu Leu Gln Pro Ile Glu Ser Asp
245 250 255
Asp Met Glu His Lys Thr Leu Lys Ile Thr Asp Phe Gly Leu Ala Arg
260 265 270
Glu Trp His Lys Thr Thr Gln Met Ser Ala Ala Gly Thr Tyr Ala Trp
275 280 285
Met Ala Pro Glu Val Ile Lys Ala Ser Thr Phe Ser Lys Gly Ser Asp
290 295 300
Val Trp Ser Phe Gly Val Leu Leu Trp Glu Leu Leu Thr Gly Glu Val
305 310 315 320
Pro Tyr Arg Gly Ile Asp Cys Leu Ala Val Ala Tyr Gly Val Ala Val
325 330 335
Asn Lys Leu Thr Leu Pro Ile Pro Ser Thr Cys Pro Glu Pro Phe Ala
340 345 350
Gln Leu Met Ala Asp Cys Trp Ala Gln Asp Pro His Arg Arg Pro Asp
355 360 365
Phe Ala Ser Ile Leu Gln Gln Leu Glu Ala Leu Glu Ala Gln Val Leu
370 375 380
Arg Glu Met Pro Arg Asp Ser Phe His Ser Met Gln Glu Gly Trp Lys

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33178SEQLIST.TXT

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385      390      395      400
Arg Glu Ile Gln Gly Leu Phe Asp Glu Leu Arg Ala Lys Glu Lys Glu
405      410      415
Leu Leu Ser Arg Glu Glu Glu Leu Thr Arg Ala Ala Arg Glu Gln Arg
420      425      430
Ser Gln Ala Glu Gln Leu Arg Arg Glu His Leu Leu Ala Gln Trp
435      440      445
Glu Leu Glu Val Phe Glu Arg Glu Leu Thr Leu Leu Gln Gln Val
450      455      460
Asp Arg Glu Arg Pro His Val Arg Arg Arg Arg Gly Thr Phe Lys Arg
465      470      475      480
Ser Lys Leu Arg Ala Arg Asp Gly Gly Glu Arg Ile Ser Met Pro Leu
485      490      495
Asp Phe Lys His Arg Ile Thr Val Gln Ala Ser Pro Gly Leu Asp Arg
500      505      510
Arg Arg Asn Val Phe Glu Val Gly Pro Gly Asp Ser Pro Thr Phe Pro
515      520      525
Arg Phe Arg Ala Ile Gln Leu Glu Pro Ala Glu Pro Gly Gln Ala Trp
530      535      540
Gly Arg Gln Ser Pro Arg Arg Leu Glu Asp Ser Ser Asn Gly Glu Arg
545      550      555      560
Arg Ala Cys Trp Ala Trp Gly Pro Ser Ser Pro Lys Pro Gly Glu Ala
565      570      575
Gln Asn Gly Arg Arg Ser Arg Met Asp Glu Ala Thr Trp Tyr Leu
580      585      590
Asp Ser Asp Asp Ser Ser Pro Leu Gly Ser Pro Ser Thr Pro Pro Ala
595      600      605
Leu Asn Gly Asn Pro Pro Arg Pro Ser Leu Glu Pro Glu Glu Pro Lys
610      615      620
Arg Pro Val Pro Ala Glu Arg Gly Ser Ser Ser Gly Thr Pro Lys Leu
625      630      635      640
Ile Gln Arg Ala Leu Arg Gly Thr Ala Leu Leu Ala Ser Leu Gly
645      650      655
Leu Gly Arg Asp Leu Gln Pro Pro Gly Gly Pro Gly Arg Glu Arg Gly
660      665      670
Glu Ser Pro Thr Thr Pro Pro Thr Pro Thr Pro Ala Pro Cys Pro Thr
675      680      685
Glu Pro Pro Pro Ser Pro Leu Ile Cys Phe Ser Leu Lys Thr Pro Asp
690      695      700
Ser Pro Pro Thr Pro Ala Pro Leu Leu Leu Asp Leu Gly Ile Pro Val
705      710      715      720
Gly Gln Arg Ser Ala Lys Ser Pro Arg Arg Glu Glu Pro Arg Gly
725      730      735
Gly Thr Val Ser Pro Pro Pro Gly Thr Ser Arg Ser Ala Pro Gly Thr
740      745      750
Pro Gly Thr Pro Arg Ser Pro Pro Leu Gly Leu Ile Ser Arg Pro Arg
755      760      765
Pro Ser Pro Leu Arg Ser Arg Ile Asp Pro Trp Ser Phe Val Ser Ala
770      775      780
Gly Pro Arg Pro Ser Pro Leu Pro Ser Pro Gln Pro Ala Pro Arg Arg
785      790      795      800
Ala Pro Trp Thr Leu Phe Pro Asp Ser Asp Pro Phe Trp Asp Ser Pro
805      810      815
Pro Ala Asn Pro Phe Gln Gly Gly Pro Gln Asp Cys Arg Ala Gln Thr
820      825      830
Lys Asp Met Gly Ala Gln Ala Pro Trp Val Pro Glu Ala Gly Pro
835      840      845

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<210> 143
 <211> 1571
 <212> DNA
 <213> homo sapiens

<400> 143
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 gagctgcccc actggggccgc cgccaaagag ttttaccaga agtacgacc taaggacgtc 180

33178SEQLIST.TXT

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gtgcgggaag ccacacggcg agagacacac atccttcgcc aggtcgccgg ccacccccac 360
atcatcacc ccatcgattc ctacgagtct tctagcttca tgttcctggt gtttgacctg 420
atgcggaagg gagagctggt tgactatctc acagagaagg tggccctctc tgaaaaggaa 480
accaggcca tcatgcggtc tctgctggaa gcagtgaact ttctccatgc caacaacatt 540
gtgcatcgag atctgaagcc cgagaatatt ctcctagatg acaatatgca gatccgactt 600
tcagatttcg ggttctcctg ccacttgga cctggcgaga agcttcgaga gttgtgtggg 660
accccgagg atctagcgcc agagatcctt aaatgctcca tggatgaaac ccaccaggc 720
tatggcaagg aggtcgacct ctgggcctgt ggggtgatct tgttcacact cctggctggc 780
tcgccaccct tctggcaccg gcggcagatc ctgatgttac gcatgatcat ggagggccag 840
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acacgccagg g 1571

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<210> 144
 <211> 406
 <212> PRT
 <213> homo sapiens

<400> 144

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Ala	Lys	Glu	Phe	Tyr	Gln	Lys	Tyr	Asp	Pro	Lys	Asp	Val	Ile	Gly	Arg
			20					25					30		
Gly	Val	Ser	Ser	Val	Val	Arg	Arg	Cys	Val	His	Arg	Ala	Thr	Gly	His
		35					40					45			
Glu	Phe	Ala	Val	Lys	Ile	Met	Glu	Val	Thr	Ala	Glu	Arg	Leu	Ser	Pro
	50					55					60				
Glu	Gln	Leu	Glu	Glu	Val	Arg	Glu	Ala	Thr	Arg	Arg	Glu	Thr	His	Ile
65					70					75				80	
Leu	Arg	Gln	Val	Ala	Gly	His	Pro	His	Ile	Ile	Thr	Leu	Ile	Asp	Ser
			85						90					95	
Tyr	Glu	Ser	Ser	Ser	Phe	Met	Phe	Leu	Val	Phe	Asp	Leu	Met	Arg	Lys
			100					105					110		
Gly	Glu	Leu	Phe	Asp	Tyr	Leu	Thr	Glu	Lys	Val	Ala	Leu	Ser	Glu	Lys
		115					120					125			
Glu	Thr	Arg	Ser	Ile	Met	Arg	Ser	Leu	Leu	Glu	Ala	Val	Ser	Phe	Leu
	130				135						140				
His	Ala	Asn	Asn	Ile	Val	His	Arg	Asp	Leu	Lys	Pro	Glu	Asn	Ile	Leu
145				150					155					160	
Leu	Asp	Asp	Asn	Met	Gln	Ile	Arg	Leu	Ser	Asp	Phe	Gly	Phe	Ser	Cys
			165					170						175	
His	Leu	Glu	Pro	Gly	Glu	Lys	Leu	Arg	Glu	Leu	Cys	Gly	Thr	Pro	Gly
			180					185					190		
Tyr	Leu	Ala	Pro	Glu	Ile	Leu	Lys	Cys	Ser	Met	Asp	Glu	Thr	His	Pro
	195					200						205			
Gly	Tyr	Gly	Lys	Glu	Val	Asp	Leu	Trp	Ala	Cys	Gly	Val	Ile	Leu	Phe
	210				215						220				
Thr	Leu	Leu	Ala	Gly	Ser	Pro	Pro	Phe	Trp	His	Arg	Arg	Gln	Ile	Leu
225					230					235					240
Met	Leu	Arg	Met	Ile	Met	Glu	Gly	Gln	Tyr	Gln	Phe	Ser	Ser	Pro	Glu
			245					250						255	
Trp	Asp	Asp	Arg	Ser	Ser	Thr	Val	Lys	Asp	Leu	Ile	Ser	Arg	Leu	Leu
		260						265					270		
Gln	Val	Asp	Pro	Glu	Ala	Arg	Leu	Thr	Ala	Glu	Gln	Ala	Leu	Gln	His
	275					280						285			
Pro	Phe	Phe	Glu	Arg	Cys	Glu	Gly	Ser	Gln	Pro	Trp	Asn	Leu	Thr	Pro

33178SEQLIST.TXT

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      290      295      300
Arg Gln Arg Phe Arg Val Ala Val Trp Thr Val Leu Ala Ala Gly Arg
305 Val Ala Leu Ser Thr His Arg Val Arg Pro Leu Thr Lys Asn Ala Leu
      310      315      320
      325      330      335
Leu Arg Asp Pro Tyr Ala Leu Arg Ser Val Arg His Leu Ile Asp Asn
      340      345      350
Cys Ala Phe Arg Leu Tyr Gly His Trp Val Lys Lys Gly Glu Gln Gln
      355      360      365
Asn Arg Ala Ala Leu Phe Gln His Arg Pro Pro Gly Pro Phe Pro Ile
      370      375      380
Met Gly Pro Glu Glu Glu Gly Asp Ser Ala Ala Ile Thr Glu Asp Glu
385 Ala Val Leu Val Leu Gly
      390      395      400
      405

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<210> 145
 <211> 952
 <212> DNA
 <213> homo sapiens

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<400> 145
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gaggctgctg tgaaagagggc tggctacaca atcgaatggt ttgaggtgat ctgcgaaagt 840
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agaccctgtg gatgcctgtg acctcaatta aagcaattcc tttgacctgt ca 952

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<210> 146
 <211> 264
 <212> PRT
 <213> homo sapiens

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<400> 146
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20 25 30
Ala Glu Ser Gln Ile Leu Lys His Leu Leu Lys Asn Leu Phe Lys Ile
35 40 45
Phe Cys Leu Asp Gly Val Lys Gly Asp Leu Leu Ile Asp Ile Gly Ser
50 55 60
Gly Pro Thr Ile Tyr Gln Leu Leu Ser Ala Cys Glu Ser Phe Lys Glu
65 70 75 80
Ile Val Val Thr Asp Tyr Ser Asp Gln Asn Leu Gln Glu Leu Glu Lys
85 90 95
Trp Leu Lys Lys Glu Pro Glu Ala Phe Asp Trp Ser Pro Val Val Thr
100 105 110
Tyr Val Cys Asp Leu Glu Gly Asn Arg Val Lys Gly Pro Glu Lys Glu
115 120 125
Glu Lys Leu Arg Gln Ala Val Lys Gln Val Leu Lys Cys Asp Val Thr
130 135 140
Gln Ser Gln Pro Leu Gly Ala Val Pro Leu Pro Pro Ala Asp Cys Val
145 150 155 160
Leu Ser Thr Leu Cys Leu Asp Ala Ala Cys Pro Asp Leu Pro Thr Tyr
165 170 175

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33178SEQLIST.TXT

Cys Arg Ala Leu Arg Asn Leu Gly Ser Leu Leu Lys Pro Gly Gly Phe
 180 185 190
 Leu Val Ile Met Asp Ala Leu Lys Ser Ser Tyr Tyr Met Ile Gly Glu
 195 200 205
 Gln Lys Phe Ser Ser Leu Pro Leu Gly Arg Glu Ala Val Glu Ala Ala
 210 215 220
 Val Lys Glu Ala Gly Tyr Thr Ile Glu Trp Phe Glu Val Ile Ser Gln
 225 230 235 240
 Ser Tyr Ser Ser Thr Met Ala Asn Asn Glu Gly Leu Phe Ser Leu Val
 245 250 255
 Ala Arg Lys Leu Ser Arg Pro Leu
 260

<210> 147
 <211> 830
 <212> DNA
 <213> homo sapiens

<400> 147
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 ccacgatgag atgttctccg acatctacaa gatccgggag atcgcggacg ggttgctcct 180
 ggaggtggag gggaagatgg tcagtaggac agaaggtaac attgatgact cgctcattgg 240
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 gaagtacatc aaagattaca tgaaatcaat caaagggaaa cttgaagaac agagaccaga 420
 aagagtaaaaa ccttttatga caggggctgc agaacaaatc aagcacatcc ttgctaattt 480
 caaaaactac cagttcttta ttggtgaaaa catgaatcca gatggcatgg ttgctctatt 540
 ggactaccgt gaggatgggtg tgaccccata tatgattttc ttaaggatg gtttagaaat 600
 ggaaaaatgt taacaaatgt ggcaattatt ttggatctat cacctgtcat cataactggc 660
 ttctgcttgt catccacaca acaccaggac ttaagacaaa tgggactgat gtcacttga 720
 gctcttcatt tattttgact gtgatttatt tggagtggag gcattgtttt taagaaaaac 780
 atgtcatgta ggttgctcaa aaataaaatg catttaaatc catttgagag 830

<210> 148
 <211> 172
 <212> PRT
 <213> homo sapiens

<400> 148
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 Ile Tyr Lys Ile Arg Glu Ile Ala Asp Gly Leu Cys Leu Glu Val Glu
 20 25 30
 Gly Lys Met Val Ser Arg Thr Glu Gly Asn Ile Asp Asp Ser Leu Ile
 35 40 45
 Gly Gly Asn Ala Ser Ala Glu Gly Pro Glu Gly Glu Gly Thr Glu Ser
 50 55 60
 Thr Val Ile Thr Gly Val Asp Ile Val Met Asn His His Leu Gln Glu
 65 70 75 80
 Thr Ser Phe Thr Lys Glu Ala Tyr Lys Lys Tyr Ile Lys Asp Tyr Met
 85 90 95
 Lys Ser Ile Lys Gly Lys Leu Glu Glu Gln Arg Pro Glu Arg Val Lys
 100 105 110
 Pro Phe Met Thr Gly Ala Ala Glu Gln Ile Lys His Ile Leu Ala Asn
 115 120 125
 Phe Lys Asn Tyr Gln Phe Phe Ile Gly Glu Asn Met Asn Pro Asp Gly
 130 135 140
 Met Val Ala Leu Leu Asp Tyr Arg Glu Asp Gly Val Thr Pro Tyr Met
 145 150 155 160
 Ile Phe Phe Lys Asp Gly Leu Glu Met Glu Lys Cys
 165 170

<210> 149
 <211> 2077
 <212> DNA

<213> homo sapiens

<400> 149

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ctgaaactgg gccatctcca gagtggatgc tacaacatga tctaattccc ggagacttga 180
gggacctccg agtagaacct gttacaacta gtgttgcaac aggggactat tcaattttga 240
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taatgaaata taaaaaaaag tgtgtcaagg ccggaagcct gtgggatccg aacatcactg 600
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<210> 150

<211> 502

<212> PRT

<213> homo sapiens

<400> 150

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35      40      45
Arg Val Glu Pro Val Thr Thr Ser Val Ala Thr Gly Asp Tyr Ser Ile
50      55      60
Leu Met Asn Val Ser Trp Val Leu Arg Ala Asp Ala Ser Ile Arg Leu
65      70      75      80
Leu Lys Ala Thr Lys Ile Cys Val Thr Gly Lys Ser Asn Phe Gln Ser
85      90      95
Tyr Ser Cys Val Arg Cys Asn Tyr Thr Glu Ala Phe Gln Thr Gln Thr
100     105     110
Arg Pro Ser Gly Gly Lys Trp Thr Phe Ser Tyr Ile Gly Phe Pro Val
115     120     125
Glu Leu Asn Thr Val Tyr Phe Ile Gly Ala His Asn Ile Pro Asn Ala
130     135     140
Asn Met Asn Glu Asp Gly Pro Ser Met Ser Val Asn Phe Thr Ser Pro
145     150     155     160
Gly Cys Leu Asp His Ile Met Lys Tyr Lys Lys Lys Cys Val Lys Ala
165     170     175
Gly Ser Leu Trp Asp Pro Asn Ile Thr Ala Cys Lys Lys Asn Glu Glu

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Gln	Thr	Gly	Val	Pro	Phe	Pro	Leu	Asp	Asn	Asn	Lys	Ser	Lys	Pro	Gly
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Lys	Tyr	His	Leu	Met	Lys	Asp	Ala	Thr	Ala	Phe	Cys	Ala	Glu	Leu	Leu
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His	Val	Lys	Gln	Gln	Val	Ser	Ala	Gly	Lys	Arg	Ser	Gln	Ala	Cys	His
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 <212> PRT
 <213> homo sapiens

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<400> 152

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Lys Leu Lys Leu Met Leu Gln Lys Arg Glu Ala Pro Val Pro Thr Lys
 35      40      45
Thr Lys Val Ala Val Asp Glu Asn Lys Ala Lys Glu Phe Leu Gly Ser
 50      55      60
Leu Lys Arg Gln Lys Arg Gln Leu Trp Asp Arg Thr Arg Pro Glu Val
 65      70      75      80
Gln Gln Trp Tyr Gln Gln Phe Leu Tyr Met Gly Phe Asp Glu Ala Lys
 85      90      95
Phe Glu Asp Asp Ile Thr Tyr Trp Leu Asn Arg Asp Arg Asn Gly His
100      105      110
Glu Tyr Tyr Gly Asp Tyr Tyr Gln Arg His Tyr Asp Glu Asp Ser Ala
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35 40 45
Thr Val Pro Thr Gly Tyr Arg Val Lys Leu Val Phe Gln Gln Phe Asp
50 55 60
Leu Glu Pro Ser Glu Gly Cys Phe Tyr Asp Tyr Val Lys Ile Ser Ala
65 70 75 80
Asp Lys Lys Ser Leu Gly Arg Phe Cys Gly Gln Leu Gly Ser Pro Leu
85 90 95
Gly Asn Pro Pro Gly Lys Lys Glu Phe Met Ser Gln Gly Asn Lys Met
100 105 110
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115 120 125
Met Phe Tyr Lys Gly Phe Leu Ala Tyr Tyr Gln Ala Val Asp Leu Asp
130 135 140
Glu Cys Ala Ser Arg Ser Lys Leu Gly Glu Glu Asp Pro Gln Pro Gln
145 150 155 160
Cys Gln His Leu Cys His Asn Tyr Val Gly Gly Tyr Phe Cys Ser Cys
165 170 175
Arg Pro Gly Tyr Glu Leu Gln Glu Asp Arg His Ser Cys Gln Ala Glu
180 185 190
Cys Ser Ser Glu Leu Tyr Thr Glu Ala Ser Gly Tyr Ile Ser Ser Leu
195 200 205
Glu Tyr Pro Arg Ser Tyr Pro Pro Asp Leu Arg Cys Asn Tyr Ser Ile
210 215 220
Arg Val Glu Arg Gly Leu Thr Leu His Leu Lys Phe Leu Glu Pro Phe
225 230 235 240
Asp Ile Asp Asp His Gln Gln Val His Cys Pro Tyr Asp Gln Leu Gln
245 250 255
Ile Tyr Ala Asn Gly Lys Asn Ile Gly Glu Phe Cys Gly Lys Gln Arg
260 265 270
Pro Pro Asp Leu Asp Thr Ser Ser Asn Ala Val Asp Leu Leu Phe Phe
275 280 285
Thr Asp Glu Ser Gly Asp Ser Arg Gly Trp Lys Leu Arg Tyr Thr Thr
290 295 300
Glu Ile Ile Lys Cys Pro Gln Pro Lys Thr Leu Asp Glu Phe Thr Ile
305 310 315 320
Ile Gln Asn Leu Gln Pro Gln Tyr Gln Phe Arg Asp Tyr Phe Ile Ala
325 330 335
Thr Cys Lys Gln Gly Tyr Gln Leu Ile Glu Gly Asn Gln Val Leu His
340 345 350
Ser Phe Thr Ala Val Cys Gln Asp Asp Gly Thr Trp His Arg Ala Met
355 360 365
Pro Arg Cys Lys Ile Lys Asp Cys Gly Gln Pro Arg Asn Leu Pro Asn
370 375 380
Gly Asp Phe Arg Tyr Thr Thr Met Gly Val Asn Thr Tyr Lys Ala
385 390 395 400
Arg Ile Gln Tyr Tyr Cys His Glu Pro Tyr Tyr Lys Met Gln Thr Arg
405 410 415
Ala Gly Ser Arg Glu Ser Glu Gln Gly Val Tyr Thr Cys Thr Ala Gln
420 425 430
Gly Ile Trp Lys Asn Glu Gln Lys Gly Glu Lys Ile Pro Arg Cys Leu
435 440 445
Pro Val Cys Gly Lys Pro Val Asn Pro Val Glu Gln Arg Gln Arg Ile

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 465 470 475 480
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 485 490 495
 Ile Leu Thr Ala His Thr Leu Tyr Pro Lys Glu His Glu Ala Gln
 500 505 510
 Ser Asn Ala Ser Leu Asp Val Phe Leu Gly His Thr Asn Val Glu Glu
 515 520 525
 Leu Met Lys Leu Gly Asn His Pro Ile Arg Arg Val Ser Val His Pro
 530 535 540
 Asp Tyr Arg Gln Asp Glu Ser Tyr Asn Phe Glu Gly Asp Ile Ala Leu
 545 550 555 560
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 565 570 575
 Cys Leu Pro Asp Asn Asp Thr Phe Tyr Asp Leu Gly Leu Met Gly Tyr
 580 585 590
 Val Ser Gly Phe Gly Val Met Glu Glu Lys Ile Ala His Asp Leu Arg
 595 600 605
 Phe Val Arg Leu Pro Val Ala Asn Pro Gln Ala Cys Glu Asn Trp Leu
 610 615 620
 Arg Gly Lys Asn Arg Met Asp Val Phe Ser Gln Asn Met Phe Cys Ala
 625 630 635 640
 Gly His Pro Ser Leu Lys Gln Asp Ala Cys Gln Gly Asp Ser Gly Gly
 645 650 655
 Val Phe Ala Val Arg Asp Pro Asn Thr Asp Arg Trp Val Ala Thr Gly
 660 665 670
 Ile Val Ser Trp Gly Ile Gly Cys Ser Arg Gly Tyr Gly Phe Tyr Thr
 675 680 685
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 Asp
 705

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 35 40 45

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 65 70 75 80
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 85 90 95
 Ala Met Asn Lys Val Ala Glu Val Leu Gln Val Pro Pro Met Arg Val
 100 105 110
 Tyr Glu Val Ala Thr Phe Tyr Thr Met Tyr Asn Arg Lys Pro Val Gly
 115 120 125
 Lys Tyr His Ile Gln Val Cys Thr Thr Thr Pro Cys Met Leu Arg Asn
 130 135 140
 Ser Asp Ser Ile Leu Glu Ala Ile Gln Lys Lys Leu Gly Ile Lys Val
 145 150 155 160
 Gly Glu Thr Thr Pro Asp Lys Leu Phe Thr Leu Ile Glu Val Glu Cys
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<400> 158
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 35 40 45
 Leu Ala Lys Gln Cys Gln Leu Trp Asp Leu Leu Ser Asp Leu Glu Ala
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 Lys Cys Glu Lys Val Ser Glu Phe Val Ala Ser Lys Pro Gly Thr Cys
 65 70 75 80
 Val Lys Val Leu Thr Ile Glu Pro Pro Pro Ala Asp Pro Arg Leu Arg
 85 90 95
 Glu Asp Met Ala Leu Leu Ala Asp Cys Ala Leu Pro Pro Glu Leu Arg
 100 105 110
 Gly Asp Leu Trp Glu Leu Pro Phe Pro Cys Pro Asp Gly Phe Asn Ser
 115 120 125
 Cys Pro Asp Ile Cys Phe Arg Val Ala Gly Cys Ser Phe Leu Cys His
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 Lys Ala Phe Phe Cys Gly Arg Ser Asp Tyr Phe Arg Ala Leu Leu Asp
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 Asp His Phe Arg Glu Ser Glu Glu Pro Ala Thr Ser Gly Gly Pro Pro
 165 170 175
 Ala Val Thr Leu His Gly Ile Ser Pro Asp Val Phe Thr His Val Leu
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 Tyr Tyr Met Tyr Ser Asp His Thr Glu Leu Ser Pro Glu Ala Ala Tyr
 195 200 205
 Asp Val Leu Ser Val Ala Asp Met Tyr Leu Leu Pro Gly Leu Lys Arg
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 Gly Val Trp Arg Val Ala Lys Leu Phe Arg Leu Ala Arg Leu Glu Asp
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<210> 160
 <211> 538
 <212> PRT
 <213> homo sapiens

<400> 160

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Leu Pro Gly Asp Ile Val Pro Ala Pro Gly Pro Val Leu Ala Pro Thr
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His Leu Gln Thr Glu Leu Val Leu Arg Cys Gln Lys Glu Thr Asp Cys
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Asp Leu Cys Leu Arg Val Ala Val His Leu Ala Val His Gly His Trp
85 90 95
Glu Glu Pro Glu Asp Glu Glu Lys Phe Gly Gly Ala Ala Asp Ser Gly
100 105 110
Val Glu Glu Pro Arg Asn Ala Ser Leu Gln Ala Gln Val Val Leu Ser
115 120 125
Phe Gln Ala Tyr Pro Thr Ala Arg Cys Val Leu Leu Glu Val Gln Val
130 135 140
Pro Ala Ala Leu Val Gln Phe Gly Gln Ser Val Gly Ser Val Val Tyr
145 150 155 160
Asp Cys Phe Glu Ala Leu Gly Ser Glu Val Arg Ile Trp Ser Tyr
165 170 175
Thr Gln Pro Arg Tyr Glu Lys Glu Leu Asn His Thr Gln Gln Leu Pro
180 185 190
Ala Leu Pro Trp Leu Asn Val Ser Ala Asp Gly Asp Asn Val His Leu
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Val Leu Asn Val Ser Glu Glu Gln His Phe Gly Leu Ser Leu Tyr Trp
210 215 220
Asn Gln Val Gln Gly Pro Pro Lys Pro Arg Trp His Lys Asn Leu Thr

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 Cys Pro Phe Arg Glu Asp Pro Arg Ala His Gln Asn Leu Trp Gln Ala
 275 280 285
 Ala Arg Leu Arg Leu Leu Thr Leu Gln Ser Trp Leu Leu Asp Ala Pro
 290 295 300
 Cys Ser Leu Pro Ala Glu Ala Ala Leu Cys Trp Arg Ala Pro Gly Gly
 305 310 315 320
 Asp Pro Cys Gln Pro Leu Val Pro Pro Leu Ser Trp Glu Asn Val Thr
 325 330 335
 Val Asp Lys Val Leu Glu Phe Pro Leu Leu Lys Gly His Pro Asn Leu
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 Cys Val Gln Val Asn Ser Ser Glu Lys Leu Gln Leu Gln Glu Cys Leu
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 Trp Ala Asp Ser Leu Gly Pro Leu Lys Asp Asp Val Leu Leu Leu Glu
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 Thr Arg Gly Pro Gln Asp Asn Arg Ser Leu Cys Ala Leu Glu Pro Ser
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 Gly Cys Thr Ser Leu Pro Ser Lys Ala Ser Thr Arg Ala Ala Arg Leu
 405 410 415
 Gly Glu Tyr Leu Leu Gln Asp Leu Gln Ser Gly Gln Cys Leu Gln Leu
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 Trp Asp Asp Asp Leu Gly Ala Leu Trp Ala Cys Pro Met Asp Lys Tyr
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 Ile His Lys Arg Trp Ala Leu Val Trp Leu Ala Cys Leu Leu Phe Ala
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 465 470 475 480
 Trp Leu Arg Leu Leu Lys Gln Asp Val Arg Ser Gly Gly Glu Trp Glu
 485 490 495
 Gln Ala Leu Gly Gly Gly Pro Pro Gly Ser Gln Ala Cys Ala Ser
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<210> 162

<211> 757

<212> PRT

<213> homo sapiens

<400> 162

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35      40      45
Arg Glu Leu Leu Arg Gln Gln Val Arg Glu Ile Thr Phe Leu Lys Asn
50      55      60
Thr Val Met Glu Cys Asp Ala Cys Gly Met Gln Gln Ser Val Arg Thr
65      70      75      80
Gly Leu Pro Ser Val Arg Pro Leu Leu His Cys Ala Pro Gly Phe Cys
85      90      95
Phe Pro Gly Val Ala Cys Ile Gln Thr Glu Ser Gly Ala Arg Cys Gly
100     105     110
Pro Cys Pro Ala Gly Phe Thr Gly Asn Gly Ser His Cys Thr Asp Val
115     120     125
Asn Glu Cys Asn Ala His Pro Cys Phe Pro Arg Val Arg Cys Ile Asn
130     135     140
Thr Ser Pro Gly Phe Arg Cys Glu Ala Cys Pro Pro Gly Tyr Ser Gly
145     150     155     160
Pro Thr His Gln Gly Val Gly Leu Ala Phe Ala Lys Ala Asn Lys Gln
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Val Cys Thr Asp Ile Asn Glu Cys Glu Thr Gly Gln His Asn Cys Val
180     185     190
Pro Asn Ser Val Cys Ile Asn Thr Arg Gly Ser Phe Gln Cys Gly Pro
195     200     205
Cys Gln Pro Gly Phe Val Gly Asp Gln Ala Ser Gly Cys Gln Arg Arg
210     215     220
Ala Gln Arg Phe Cys Pro Asp Gly Ser Pro Ser Glu Cys His Glu His
225     230     235     240
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245     250     255
Val Gly Trp Ala Gly Asn Gly Ile Leu Cys Gly Arg Asp Thr Asp Leu
260     265     270
Asp Gly Phe Pro Asp Glu Lys Leu Arg Cys Pro Glu Arg Gln Cys Arg
275     280     285
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 Asp Ala Cys Asp Asp Asp Ile Asp Gly Asp Arg Ile Arg Asn Gln Ala
 Asp Asn Cys Pro Arg Val Pro Asn Ser Asp Gln Lys Asp Ser Asp Gly
 Asp Gly Ile Gly Asp Ala Cys Asp Asn Cys Pro Gln Lys Ser Asn Pro
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 Asp Gln Asp Gln Asp Gly Asp Gly His Gln Asp Ser Arg Asp Asn Cys
 Pro Thr Val Pro Asn Ser Ala Gln Glu Asp Ser Asp His Asp Gly Gln
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 Phe Asn Gly Val Asp Phe Glu Gly Thr Phe His Val Asn Thr Val Thr
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 Phe Tyr Val Val Met Trp Lys Gln Met Glu Gln Thr Tyr Trp Gln Ala
 Asn Pro Phe Arg Ala Val Ala Glu Pro Gly Ile Gln Leu Lys Ala Val
 Lys Ser Ser Thr Gly Pro Gly Glu Gln Leu Arg Asn Ala Leu Trp His
 Thr Gly Asp Thr Glu Ser Gln Val Arg Leu Leu Trp Lys Asp Pro Arg
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<210> 167

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<212> DNA

<213> homo sapiens

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<210> 168

<211> 465

<212> PRT

<213> homo sapiens

<400> 168

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35      40      45
Leu Ile Gln Glu Phe Gly Ile Gly Tyr Ser Asp Thr Ala Trp Ile Ser
50      55      60
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Cys Val Asn Arg Phe Gly Cys Arg Pro Val Met Leu Val Gly Gly Leu

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 50 55 60
 Ser Val Glu Gly Met Glu Glu Pro Asp Ile Gln Trp Val Lys Asp Gly
 65 70 75 80
 Ala Val Val Gln Asn Leu Asp Gln Leu Tyr Ile Pro Val Ser Glu Gln
 85 90 95
 His Trp Ile Gly Phe Leu Ser Leu Lys Ser Val Glu Arg Ser Asp Ala
 100 105 110
 Gly Arg Tyr Trp Cys Gln Val Glu Asp Gly Gly Glu Thr Glu Ile Ser

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115 120 125
 Gln Pro Val Trp Leu Thr Val Glu Gly Val Pro Phe Phe Thr Val Glu
 130 135 140
 Pro Lys Asp Leu Ala Val Pro Pro Asn Ala Pro Phe Gln Leu Ser Cys
 145 150 155 160
 Glu Ala Val Gly Pro Glu Pro Val Thr Ile Val Trp Trp Arg Gly
 165 170 175
 Thr Thr Lys Ile Gly Gly Pro Ala Pro Ser Pro Ser Val Leu Asn Val
 180 185 190
 Thr Gly Val Thr Gln Ser Thr Met Phe Ser Cys Glu Ala His Asn Leu
 195 200 205
 Lys Gly Leu Ala Ser Ser Arg Thr Ala Thr Val His Leu Gln Ala Leu
 210 215 220
 Pro Ala Ala Pro Phe Asn Ile Thr Val Thr Lys Leu Ser Ser Ser Asn
 225 230 235 240
 Ala Ser Val Ala Trp Met Pro Gly Ala Asp Gly Arg Ala Leu Leu Gln
 245 250 255
 Ser Cys Thr Val Gln Val Thr Gln Ala Pro Gly Gly Trp Glu Val Leu
 260 265 270
 Ala Val Val Val Pro Val Pro Phe Thr Cys Leu Leu Arg Asp Leu
 275 280 285
 Val Pro Ala Thr Asn Tyr Ser Leu Arg Val Arg Cys Ala Asn Ala Leu
 290 295 300
 Gly Pro Ser Pro Tyr Ala Asp Trp Val Pro Phe Gln Thr Lys Gly Leu
 305 310 315 320
 Ala Pro Ala Ser Ala Pro Gln Asn Leu His Ala Ile Arg Thr Asp Ser
 325 330 335
 Gly Leu Ile Leu Glu Trp Glu Glu Val Ile Pro Glu Ala Pro Leu Glu
 340 345 350
 Gly Pro Leu Gly Pro Tyr Lys Leu Ser Trp Val Gln Asp Asn Gly Thr
 355 360 365
 Gln Asp Glu Leu Thr Val Glu Gly Thr Arg Ala Asn Leu Thr Gly Trp
 370 375 380
 Asp Pro Gln Lys Asp Leu Ile Val Arg Val Cys Val Ser Asn Ala Val
 385 390 395 400
 Gly Cys Gly Pro Trp Ser Gln Pro Leu Val Val Ser Ser His Asp Arg
 405 410 415
 Ala Gly Gln Gln Gly Pro Pro His Ser Arg Thr Ser Trp Val Pro Val
 420 425 430
 Val Leu Gly Val Leu Thr Ala Leu Val Thr Ala Ala Ala Leu Ala Leu
 435 440 445
 Ile Leu Leu Arg Lys Arg Arg Lys Glu Thr Arg Phe Gly Gln Ala Phe
 450 455 460
 Asp Ser Val Met Ala Arg Gly Glu Pro Ala Val His Phe Arg Ala Ala
 465 470 475 480
 Arg Ser Phe Asn Arg Glu Arg Pro Glu Arg Ile Glu Ala Thr Leu Asp
 485 490 495
 Ser Leu Gly Ile Ser Asp Glu Leu Lys Glu Lys Leu Glu Asp Val Leu
 500 505 510
 Ile Pro Glu Gln Gln Phe Thr Leu Gly Arg Met Leu Gly Lys Gly Glu
 515 520 525
 Phe Gly Ser Val Arg Glu Ala Gln Leu Lys Gln Glu Asp Gly Ser Phe
 530 535 540
 Val Lys Val Ala Val Lys Met Leu Lys Ala Asp Ile Ile Ala Ser Ser
 545 550 555 560
 Asp Ile Glu Glu Phe Leu Arg Glu Ala Ala Cys Met Lys Glu Phe Asp
 565 570 575
 His Pro His Val Ala Lys Leu Val Gly Val Ser Leu Arg Ser Arg Ala
 580 585 590
 Lys Gly Arg Leu Pro Ile Pro Met Val Ile Leu Pro Phe Met Lys His
 595 600 605
 Gly Asp Leu His Ala Phe Leu Leu Ala Ser Arg Ile Gly Glu Asn Pro
 610 615 620
 Phe Asn Leu Pro Leu Gln Thr Leu Ile Arg Phe Met Val Asp Ile Ala
 625 630 635 640
 Cys Gly Met Glu Tyr Leu Ser Ser Arg Asn Phe Ile His Arg Asp Leu
 645 650 655
 Ala Ala Arg Asn Cys Met Leu Ala Glu Asp Met Thr Val Cys Val Ala

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Asp	Phe	Gly	660	Leu	Ser	Arg	Lys	Ile	665	Tyr	Ser	Gly	Asp	Tyr	670	Tyr	Arg	Gln
Gly	Cys	Ala	675	Ser	Lys	Leu	Pro	Val	680	Lys	Trp	Leu	Ala	Leu	Glu	Ser	Leu	
Ala	Asp	Asn	690	Leu	Tyr	Thr	Val	Gln	695	Ser	Asp	Val	Trp	Ala	Phe	Gly	Val	
705	Thr	Met	710	Glu	Ile	Met	Thr	Arg	715	Gly	Gln	Thr	Pro	Tyr	Ala	Gly	Ile	
			725						730									
Glu	Asn	Ala	740	Glu	Ile	Tyr	Asn	Tyr	745	Leu	Ile	Gly	Gly	Asn	Arg	Leu	Lys	
Gln	Pro	Pro	755	Glu	Cys	Met	Glu	Asp	760	Val	Tyr	Asp	Leu	Met	Tyr	Gln	Cys	
Trp	Ser	Ala	770	Asp	Pro	Lys	Gln	Arg	775	Pro	Ser	Phe	Thr	Cys	Leu	Arg	Met	
Glu	Leu	Glu	785	Asn	Ile	Leu	Gly	Gln	790	Leu	Ser	Val	Leu	Ser	Ala	Ser	Gln	
Asp	Pro	Leu	805	Tyr	Ile	Asn	Ile	Glu	810	Arg	Ala	Glu	Glu	Pro	Thr	Ala	Gly	
Gly	Ser	Leu	820	Glu	Leu	Pro	Gly	Arg	825	Gln	Pro	Tyr	Ser	Gly	Ala	Gly		
Asp	Gly	Ser	835	Gly	Met	Gly	Ala	Val	840	Gly	Gly	Thr	Pro	Ser	Asp	Cys	Arg	
Tyr	Ile	Leu	850	Thr	Pro	Gly	Gly	Leu	855	Ala	Glu	Gln	Pro	Gly	Gln	Ala	Glu	
His	Gln	Pro	865	Glu	Ser	Pro	Leu	Asn	870	Glu	Thr	Gln	Arg	Leu	Leu	Leu	Leu	
Gln	Gln	Gly	885	Leu	Pro	His	Ser	Ser	890	Cys								